

Synthetic rubber takes a new leap

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BUSINESS WEEK

A MCGRAW-HILL PUBLICATION

FIFTY CENTS

SEPT. 17, 1960

SOUTHLAND LIFE

SEP 16 1960

ANN ARBOR, MICH

OPTICAL

Across America, new
skylines reflect
increasing paperwork,
population shifts, the
profit in real estate.
This is Dallas. (Regions)

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ANN ARBOR MICH



Photograph taken with the cooperation of Kwal Paints, Inc., Denver, Colorado

Sealing unlimited in any weather—with PLIOLITE S-5

Big problem with the many grain elevators that dot the Great Plains is moisture penetration. It not only causes unwanted dampness within the elevators, but, aided by frequent freezing and thawing, often leads to serious concrete erosion.

To lick this problem, an effective, easily applied sealant was needed. Paint seemed logical. But most paints couldn't withstand the attack of the alkalis in the concrete. Then one manufacturer tried a formulation based on PLIOLITE S-5 and soon found it effectively seals concrete—offers outstanding resistance to alkalis and weather, too!

If you're searching for a better-looking, longer-lasting masonry paint, look to PLIOLITE S-5. For complete information, write Goodyear, Chemical Division, Dept. U-9415, Akron 16, Ohio.



Lots of good things come from

GOOD YEAR
CHEMICAL DIVISION

Pliolite—T. M. The Goodyear Tire & Rubber Company, Akron, Ohio

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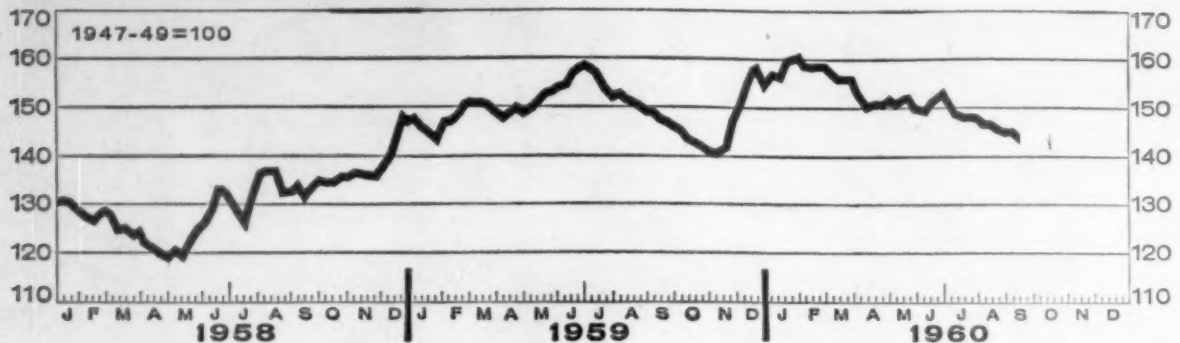
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NUMBER 1620

FIGURES of the WEEK



BUSINESS WEEK INDEX (chart)

1953-55 Average	Year Ago	Month Ago	Week Ago	\$ Latest Week
133.3	148.1	147.4	145.6r	144.7*

PRODUCTION

Steel ingot (thous. of tons).....	2,032	356	1,558	1,401r	1,503
Automobiles	125,553	24,364	84,139	51,647r	52,014
Engineering const. awards (Eng. News-Rec. 4-wk. daily av. in thous.).....	\$52,412	\$61,757	\$75,744	\$82,297	\$80,915
Electric power (millions of kilowatt-hours).....	10,819	13,109	14,622	14,941	14,216
Crude oil and condensate (daily av., thous. of bbl.).....	6,536	6,813	6,834	6,824	6,874
Bituminous coal (daily av., thous. of tons).....	1,455	1,224	1,298	1,298r	1,265
Paperboard (tons)	247,488	250,491	314,180	326,644	237,708

TRADE

Carloadings: mfrs., miscellaneous and l.c.l. (daily av., thous. of cars).....	70	56	53	54	53
Carloadings: all others (daily av., thous. of cars).....	47	35	46	45	43
Department store sales index (1947-49 = 100, not seasonally adjusted).....	121	148	128	144	146
Business failures (Dun & Bradstreet, number).....	198	222	308	288	276

PRICES

Industrial raw materials, daily index (BLS, 1947-49 = 100).....	89.2	94.2	91.2	91.3	91.0
Foodstuffs, daily index (BLS, 1947-49 = 100).....	90.5	77.4	77.7	75.7	76.0
Print cloth (spot and nearby, yd.).....	19.8¢	19.5¢	20.2¢	19.4¢	19.2¢
Finished steel, index (BLS, 1947-49 = 100).....	143.9	186.7	186.2	186.2	186.2
Scrap steel composite (Iron Age, ton).....	\$36.10	\$41.50	\$32.50	\$32.50	\$31.83
Copper (electrolytic, delivered price, E&MJ, lb.).....	32,394¢	31,350¢	33,000¢	33,000¢	33,000¢
Aluminum, primary pig (U. S. del., E&MJ, lb.).....	20.6¢	24.7¢	26.0¢	26.0¢	26.0¢
Aluminum, secondary alloy #380, 1% zinc (U. S. del., E&MJ, lb.).....	††	23.79¢	24.00¢	24.00¢	24.02¢
Wheat (No. 2, hard and dark hard winter, Kansas City, bu.).....	\$2.34	\$2.06	\$1.93	\$2.01	\$1.97
Cotton, daily price (middling, 1 in., 14 designated markets, lb.).....	34.57¢	31.76¢	30.67¢	30.62¢	30.60¢
Wool tops (Boston, lb.).....	\$1.96	\$1.92	\$1.64	\$1.65	\$1.67

FINANCE

500 stocks composite, price index (S&P's, 1941-43 = 10).....	31.64	56.96	56.62	56.59	55.78
Medium grade corporate bond yield (Baa issue Moody's).....	3.59%	5.16%	5.08%	5.00%	4.98%
Prime commercial paper, 4 to 6 months, N. Y. City (prevailing rate).....	2-2½%	4½%	3½%	3½%	3½%

BANKING (Millions of Dollars)

Demand deposits adjusted, reporting member banks.....	††	60,624	58,967	58,934r	59,092
Total loans and investments, reporting member banks.....	††	103,542	104,720	104,845r	105,118
Commercial, industrial, and agricultural loans, reporting member banks....	††	29,923	32,074	31,993r	31,957
U. S. gov't guaranteed obligations held, reporting member banks.....	††	28,944	26,903	27,381	27,408
Total federal reserve credit outstanding.....		26,424	28,656	28,246	27,941

MONTHLY FIGURES OF THE WEEK

	1953-55 Average	Year Ago	Month Ago	Latest Month
Personal income (seasonally adjusted, in billions).....August.....	\$296.1	\$383.3	\$407.3	\$407.1
Farm income (seasonally adjusted, in billions).....August.....	\$16.0	\$16.0	\$16.2	\$15.7
Employment (in millions).....August.....	62.2	67.2	68.7	68.3
Unemployment (in millions).....August.....	2.5	3.4	4.0	3.8
Average weekly earnings in manufacturing.....August.....	\$73.36	\$88.70	\$91.14	\$90.12
Retail sales (seasonally adjusted, in billions).....August.....	\$14.5	\$18.3	\$18.2	\$18.2
Exports (in millions).....July.....	\$1,290	\$1,468	\$1,738	\$1,699
Imports (in millions).....July.....	\$902	\$1,248	\$1,313	\$1,155

* Preliminary, week ended September 10, 1960.

†† Not available.

r Revised.

‡ Date for 'Latest Week' on each series on request.

THE PICTURES—The Cover—Shel Hershorn; 26—WW; 28-29—Herb Kratochvil; 30-31—Joan Sydlow; 32-33—Leonard Nadel; 50—Transwestern Lines; 51—Aero Service Corp.; 70—UPI; 106, 107, 108—Robert McCullough; 111—Tibor Hirsch; 136—Machinist Photo; 141—Honolulu Star-Bulletin; 148-149—Richard Saunders; 150—Heublein; 151—Grant Compton; 167, 169—WW; 186—(top) Bert Brandt; (bottom) Ted Shershinsky; 187—Leonard Nadel; 191—Clyde Hare; 193—Chicago Aerial Industries, Inc.; 194—Jay Leviton; 196—Jim Mahan; 198—Ohmart Corp.; 200—Microceiver, Inc.

DATA·phone

A NEW TELEPHONE SERVICE FOR THE NEW ELECTRONIC ERA

Bell System's Data-Phone service enables modern business machines to "talk" to each other over regular telephone lines

MORE and more businesses are using complex computers and other electronic machines to process current facts and figures.

Where plants, warehouses, branches or offices are located in different cities and states, there is increasing need for a quick, economical way to transmit payroll, inventory, billing and other data from place to place.

This is especially true where the policy is toward decentralization of various activities.

In serving this communication need, the Bell System has come up with a new and extremely flexible method called DATA-PHONE service.

The great advantage is that business data goes over the same telephone lines you use for telephone conversations.

The new service uses Data-Phone sets to link customers' business machines—handling paper tape, magnetic tape or punched cards—to regular telephone lines. This machine-furnished data can be handled over telephone lines at speeds up to 1200 *bits* per second.

The customer pays for each Data-Phone call just like a Long Distance call for any period he wants.

THUS, in addition to our teletypewriter service, designed for low-speed operations, and our leased-line offerings allowing literally any speeds, we can now offer the added flexibility of our vast Long Distance telephone network for data transmission.

In providing the communication lines and Data-Phones, the Bell System is working right along with manufacturers who are developing the business machines to complete the service.

It all adds up to an interesting and exciting opportunity to render a new data communications service for our business customers.

A GREAT FUTURE

It is not improbable, within the next decade, that the amount of communication between electronic business machines in different cities will be as large as telephone communication between people.

BELL TELEPHONE SYSTEM





THE HEAT'S ON...

but no matter how hot it gets, Campbell Chain can take it. Fact is, Campbell Chain is made for use under all conditions. Campbell makes a *complete* line of quality chain and chain assemblies—both welded and weldless—in every size and grade. And the Campbell nationwide network of factories and warehouses assures you immediate delivery and service. CAMPBELL CHAIN COMPANY.

FACTORIES: York, Pa.—West Burlington, Iowa—Union City, Calif.—WAREHOUSES: East Cambridge, Mass., Atlanta, Ga.—Dallas, Texas—Chicago, Ill.—Seattle, Wash.—Portland, Ore.—Los Angeles, Calif.

THE ONLY CHAIN COMPANY WITH FACTORIES & WAREHOUSES COAST-TO-COAST



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BUSINESS WEEK • Sept. 17, 1960

READERS REPORT

No Serendipity Here

Dear Sir:

In your August 13 issue, page 86. It was Horace Walpole, not Hugh [who coined the word serendipity]. Shame on you!

N. L. SPELMAN

CINCINNATI, OHIO

• BW's serendipity—the art of finding the unusual, or pleasantly unexpected, by chance or sagacity—was missing that day.

Private Gifts

Dear Sir:

Re: Colleges in Rush to Build [BW—Aug. 27 '60, p. 132].

On page 134 you state: "To meet the need for improvement as well as expansion, the states have already been spending heavily for their universities." . . .

I feel some mention is due the private donations and contributions of business and industry in this expansion movement. In particular, the Ford Motor Co. has donated 210 acres of land . . . at Dearborn, Michigan and \$6.5-million which has resulted in the establishment of the Dearborn Center of the University of Michigan.

Through similar gestures from business and industry in addition to the current trend of allocation to education of public funds, I believe this country could have the plant, technical facilities, educators, and graduates that are so necessary to our continued greatness as a nation.

NORMAN J. KOTARSKI

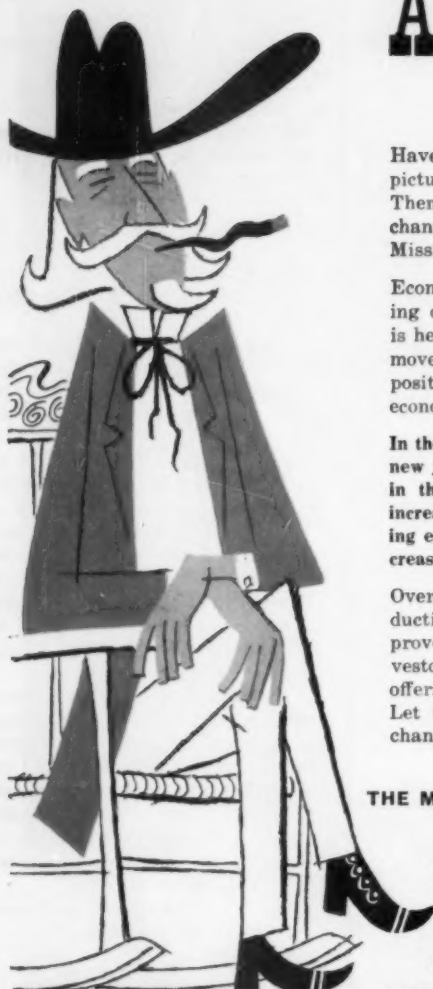
UNIVERSITY OF MICHIGAN
TAYLOR, MICH.

Dear Sir:

May I correct one often repeated but nevertheless erroneous statement in your excellent article. . . . The article states: "Usually, any state taxpayer has the right to send his children to his state's university, so long as they graduated from a recognized state high school."

Very few state universities accept students solely on the basis of high school graduation. In only four states are the state universities required by law to admit students on this basis—Kansas, Montana, Ohio, and Oklahoma. And even in these states the state universities' reputations for high quality and high standards are such that about 75% of the entering freshmen

Let us update AN IMAGE



Have you been hanging onto some old picture of the Middle South States? Then you will be amazed at the changes in Arkansas, Louisiana and Mississippi.

Economic development efforts are paying off. A favorable business climate is helping this resource-rich region to move more rapidly toward its proper position in the nation's productive economy.

In the last ten years, for example, 72,500 new jobs in manufacturing were created in the Middle South, a 25.3 per cent increase. In the same period, manufacturing employment in the United States increased 14.0 per cent.

Over \$1.4 billion invested in new productive facilities in the past five years prove that alert businessmen and investors see that the Middle South offers money-making opportunities. Let us bring you up to date on the changing Middle South. Call or write:

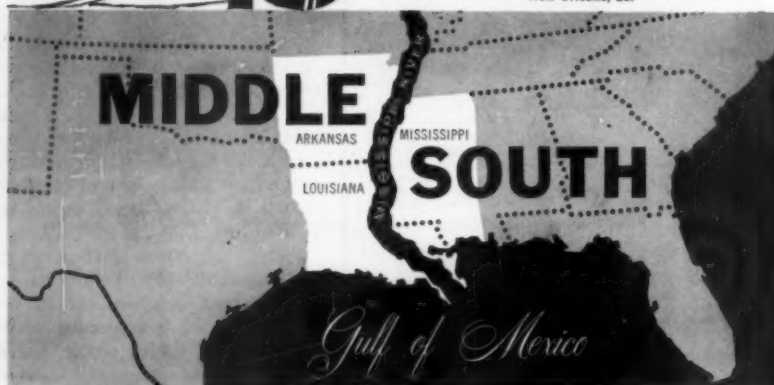
THE MIDDLE SOUTH AREA OFFICE
211 International Trade Mart
New Orleans, Louisiana

ARKANSAS POWER & LIGHT COMPANY
Little Rock, Ark.

LOUISIANA POWER & LIGHT COMPANY
New Orleans, La.

MISSISSIPPI POWER & LIGHT COMPANY
Jackson, Miss.

NEW ORLEANS PUBLIC SERVICE INC.
New Orleans, La.



ACTION AREA OF THE EXCITING 60's

rank in the upper half of their high school graduating classes.

ALLAN W. OSTAR

DIRECTOR
JOINT OFFICE OF INSTITUTIONAL
RESEARCH
WASHINGTON, D. C.

Philadelphia Reports

Dear Sir:

I would like to take this opportunity to compliment you and your staff on the excellent article on Philadelphia redevelopment [BW—Aug.20'60,p126].

RICHARDSON DILWORTH

MAYOR
PHILADELPHIA, PA.

Early Retirement

Dear Sir:

In your Washington Outlook [BW—Aug.20'60,p37] you state that if the retirement age for males is lowered to 62 under Social Security, "This would put pressure on private pension plans to conform."

A high percentage of the pension plans in effect already permit early retirement. . . . Immediate benefits are actuarially reduced as would be the Social Security benefit if it is payable before 65.

Although such reductions are justified, they [will] deter indiscriminate early retirement. . . .

CHARLES D. SPENCER

EXECUTIVE EDITOR
EMPLOYEE BENEFIT PLAN REVIEW
CHICAGO, ILL.

U. S. of Atlantica

Dear Sir:

In connection with the excellent editorial Moving Toward Unity in Europe [BW—Aug.27'60,p144], a significant event just took place.

The House of Representatives adopted by 288-103 a bill, after Senate approval in July, authorizing to set up a U. S. Commission on NATO, composed of 20 representative private citizens to organize and take part in an all-NATO convention to explore means by which greater cooperation and unity of purpose may be promoted by economic and political means. The Atlantic Congress in London in June, 1959, had urged such a conference which may be the beginning of the Atlantic Common Market to result ultimately in a new U. S. A., a United States of Atlantica. . . .

WINFRIED H. OPPENHEIMER
OPPENHEIMER, NEW & CO.
NEW YORK, N. Y.



Gardner-Denver "Air Trac"® drill shown working at Philippine iron mines.

Dreams of mineral wealth coming true in Philippines

Spanish grandees who ruled the Philippines until 1898 knew little about the treasures of mineral wealth hidden beneath their feet. Only recently, after many decades of exploration and development, are the vast extent and variety of that wealth becoming apparent.

Since the close of World War II, for example, the Philippine Bureau

of Mines has explored and begun development of an estimated 50-million-ton nickel-bearing, iron ore deposit in Nonoc Island. Exploitation of this deposit alone may well initiate a large-scale metal industry in the country. During the last few years mineral reserves of areas surveyed are estimated to contain 38.3 million tons of copper ore,

plus sizable deposits of mercury ore, coal and ceramic clay.

In the Philippines, as elsewhere throughout the Free World, Gardner-Denver rock drills and air compressors are helping to speed the pace of progress—helping to get work done faster and at lower cost. Gardner-Denver Company, Quincy, Illinois.



EQUIPMENT TODAY FOR THE CHALLENGE OF TOMORROW

GARDNER - DENVER

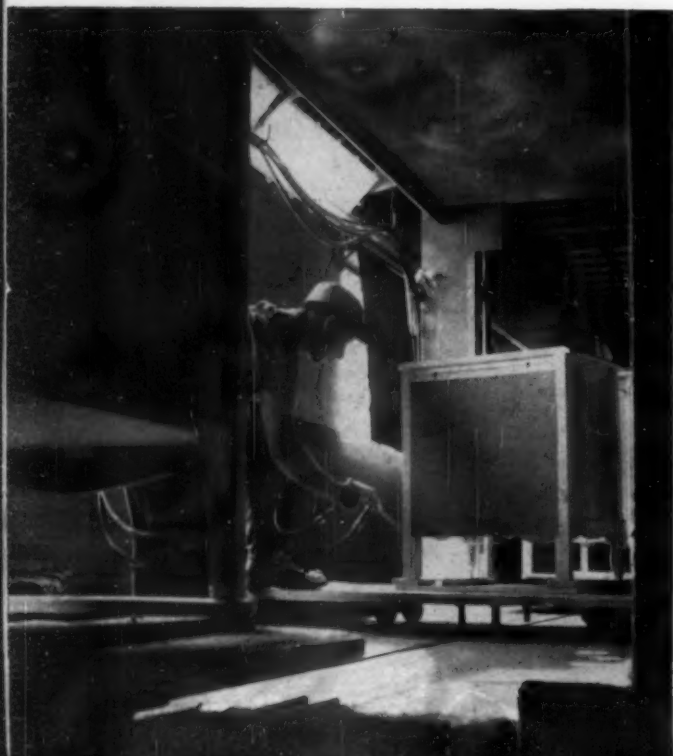
FINISHING

SKILLED operators apply about 300 gallons of material in finishing 700 furniture units each day. DeVilbiss hot spray provides high gloss, better leveling with minimum spray fog. Line moves at rate of 8 feet per minute.



TONING AND BLENDING is delicately done with DeVilbiss TGA guns, ideally suited for this type of work.

SPRAYING TIME averages 30 seconds per coat. Each piece receives three coats, with sanding in between.



Blessing in Disguise

That's how you could describe the explosion and fire that struck the finishing department at Winston-Salem's B. F. Huntley Furniture Company

Today its humming finishing line is agleam with new equipment—the most modern in the business—as B. F. Huntley bids for an even larger share of the giant furniture market.

There, operators working at 17 brightly lit spray booths are applying exquisite finishes on 700 units of furniture a day—beds, chairs, tables, and cabinets in Huntley's wide variety of exclusive styles.

"The future has never been brighter," according to Vice President R. Stockton. "Our new equipment, furnished by The DeVilbiss Company, permits flawless beauty I wouldn't have believed possible. It gives the B. F. Huntley line customer appeal that can't help but increase our sales. Loss of our old 'home-built' booths and old equipment was a blessing in disguise."

Secret of Huntley's flawless finishes lies in DeVilbiss' unique hot-spray application system. By keeping the sealer or lacquer hot, right up to the spray gun, viscosity is easily controlled, regardless of room temperature. "Finishes have a higher sheen, with no open pores." The lower spraying pressures substantially reduce spray fog.

The hot-water principle employed

in the system guarantees temperature control within safe limits under all conditions. Heater is remotely located, far removed from Huntley's finishing area.

Thorough training of operators in low-pressure hot application by the finishing-room foreman—who attended the DeVilbiss spray-painting school in Toledo—has resulted in a 35% saving in coating materials for the North Carolina firm.

If you are contemplating a new finishing system, or revamping your old one, it could pay you to talk to the DeVilbiss representative in your area before you make any commitments or decisions regarding equipment. DeVilbiss is the nation's only company to manufacture all types—manual and automatic spray coaters, dip and flow coaters, ovens, as well as complete, engineered "turn-key" finishing systems.

You'll get an unbiased recommendation based on laboratory research and more than 72 years working with every industry on coating and finishing problems. Or contact: The DeVilbiss Company, Toledo 1, Ohio. Also Barrie, Ontario; London, England; São Paulo, Brazil. Branch offices in principal cities.



"DeVILBISS-applied finishes meet our high standards," says Vice President Stockton.



MASTER HEATER, remotely located, circulates hot water in hot-spray system.



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"The Burroughs 220 Computer is a Potent Tool in Advancing Our Technology?"

Dr. Charles D. Alstad, Acting Director, Computations Research Laboratory, The Dow Chemical Company

Why do it? There are many common denominators between the global Dow of 1960 and the infant Dow of 1897. Perhaps the most important one is a business philosophy stated by founder Herbert Henry Dow. He put it this simply: "If you can't do a thing better than it's already being done, why do it?"

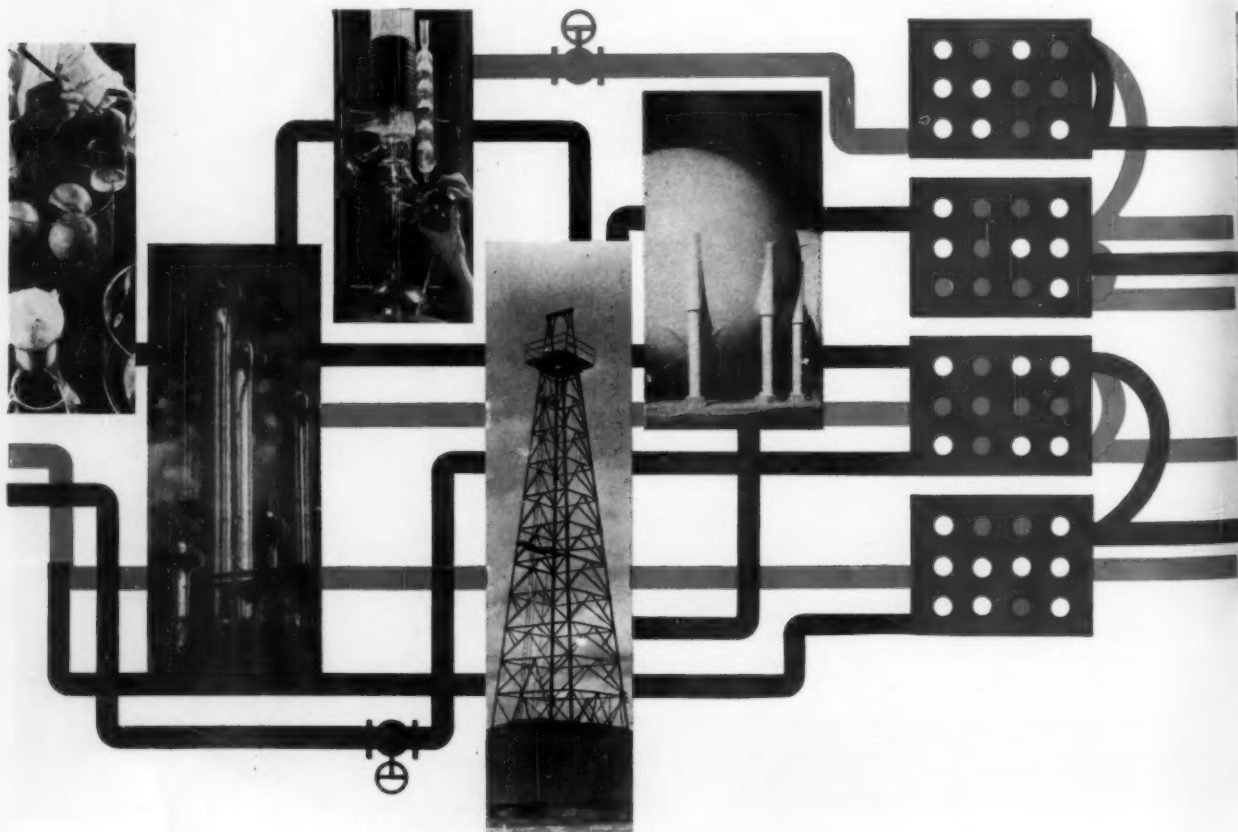
Under this pervading philosophy, Dow places heavy emphasis on new product research and operations research. And to help push advances in these areas farther and faster at less cost, Dow uses a Burroughs 220 Computer System.

THE BURROUGHS 220 AT DOW

This 220 system consists of the data processor with 5,000-word core storage, two supervisory printers, photo-reader, two paper tape punches, three magnetic tape storage units, and a Cardatron sub-system for controlling punched card input and output. Selected for its greater capacity and speed, the 220 is one of two Burroughs Computers at Dow. The other: a Burroughs 205 Computer at Dow's Freeport, Texas, operation.

The 220 computer is at work in Dow's Computations Research Laboratory in Midland, Michigan, headquarters for the firm. As Acting Director Dr. Charles D. Alstad puts it, "Our use of the 220 is in scientific and engineering applications, where it is an important adjunct to all the scientific talents available at Dow."

Super screener. For example, Dow uses the computer as a screening tool in the development of higher energy solid rocket fuels under its contract with the Advanced Research Projects Agency. In pursuit of project goals, Dow chemists can envision many fuel combinations. But they can't, of course, subject each combination to exhaustive laboratory tests. Through the Burroughs 220, Dow gets all data necessary for preliminary evaluation of a fuel and gets it in anywhere from two minutes to a half hour. In this way, Dow scientists can select only the most promising combinations for laboratory evaluation, development and testing.



Turbine tamer. In another application, Dow uses the 220 in calculating turbine efficiency tests. The calculations, which were formerly performed by hand, took at least two weeks but now require less than five minutes on the computer.

Designing for profit. Plant design is another function of the 220. In today's hotly competitive chemical industry, it's essential to keep the cost per pound of product minimized. Consequently, a plant must be carefully designed for a specified capacity, minimum capital investment, and efficient operation. The computer is a useful tool in striving for these objectives.

Care and feeding of production. In an extension of plant design, Dow uses the 220 for plant simulation, using either a derived statistical model or a theoretical model to study an existing plant. The information obtained is valuable to Dow in maintaining quality of product and efficient use of facilities.



Dr. Charles D. Alstad

Masterminding molecules.

The 220 at Dow is busy in pure research, too, where it is helping to advance the frontiers of science. For instance, Dow is investigating the bonding forces and links between the atoms in a molecule. And the Burroughs 220 performs the Urey-Bradley Force Constants Calculations that are required. These studies will supply the knowledge which will allow Dow scientists to make predictions on

how a given chemical will behave in a reaction.

Long and short of it. There are many other aspects of the 220's work at Dow, such as its evaluation of pilot plant projects, information retrieval and other routine mathematical calculations. "Fundamentally," says Dr. Alstad, "our

FROM LITTLE, MUCH

Take five basic raw materials: sea water, brine, coal, petroleum, oyster shells. Add the talents, skills and knowledge of 29,000 people. Add generous helpings of research and progressive management attitude. Apply plants located throughout the world. And you get over 700 products in five categories: industrial chemicals, plastics, metals, agricultural chemicals, textile fibers. That, in brief, is Dow, the nation's fourth largest chemical company (1960 sales: \$781 million).



Computer Operator Ray L. Haeusler at console of 220

Burroughs 220 computer is a potent tool in advancing our technology. From the range of applications, you can get an idea of the computer's value to us. And you can see why we are most enthusiastic about the results and the potential of the digital computer in research and engineering applications."

The hundreds of other scientific and commercial users of Burroughs computers are getting equally impressive results, too. One reason is the capability of the equipment in Burroughs complete data processing line. Another reason is that the equipment is backed by a coast-to-coast team of computer specialists, who are primed to show you how thoroughly and efficiently they can help you. For information, write Burroughs Corporation, Detroit 32, Michigan.

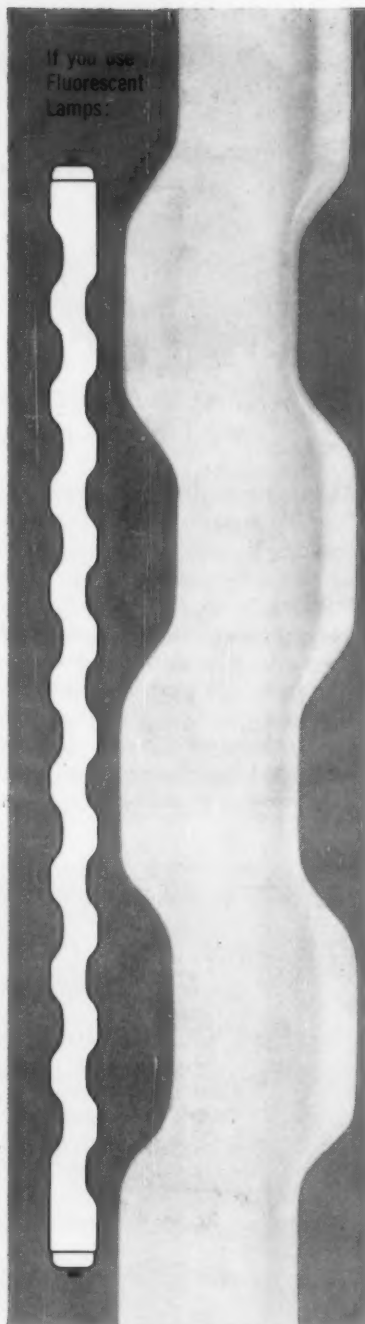
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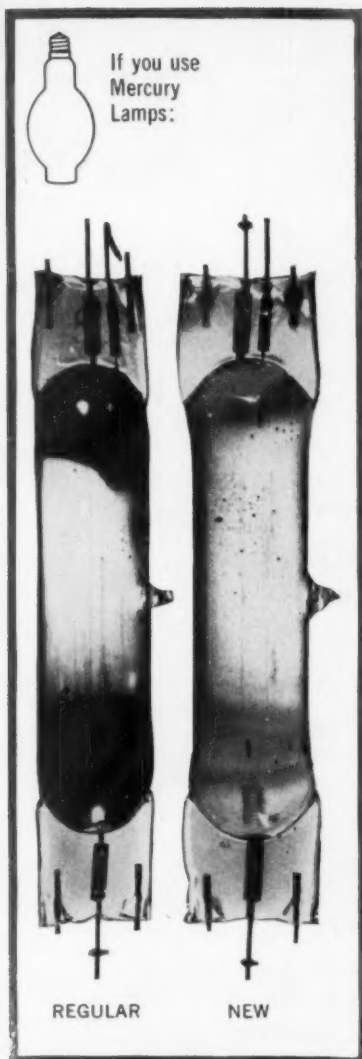
1 CUT INITIAL COST AS MUCH AS 40¢ A SQ. FT. with powerful new G-E Power Groove* Lamps. *You get all the light you need—with fewer lamps, fewer fixtures to install and maintain. The secret's in the grooves which bend the arc stream ... lengthen it ... and cause the lamp to give more light. Only General Electric has 'em.*

*General Electric's trademark for configured fluorescent lamps

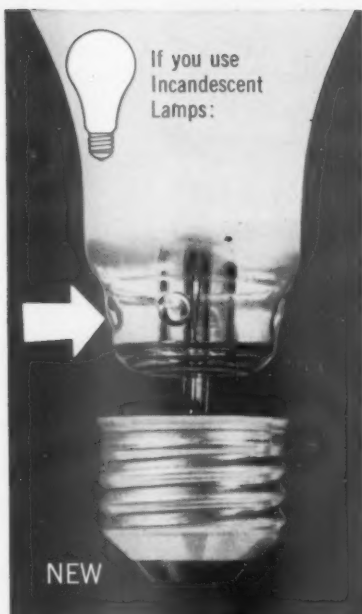


If you use
Fluorescent
Lamps:

2 NEW "WATTAGE MISER" CATHODE SHIELD FOR G-E PREMIUM 3 LAMPS—Another G-E development—reduces wattage loss, permits higher efficiency. Only 40-watt fluorescent available that delivers over 3,000 lumens. *You get more light per dollar than from any other 40-watt fluorescent you can buy—and they are in free supply.*



3 6,000 EXTRA HOURS OF USEFUL LIFE!—That's the big bonus in every 400-watt G-E "Bonus Line" Mercury Lamp. This means you get *lamp savings* (they have a longer useful life), *maintenance savings* (less frequent replacement), and *better lighting* (they stay brighter longer). G-E "Bonus" electrode (at right) won't blacken the arc tube; it deposits a white coating that lets light come through. For full details . . . write for "Simplified Bonus Line Mercury Lamp Letter".



4 NEW LAMP BASE IS SAFER, STRONGER—At the end of lamp life, even in hot fixtures, the new lamp won't separate, leaving the base in the socket. Note the dimples in the glass (arrow) that fill with cement, and lock bulb and base together for life. Plus, they're side welded to fit sockets best with no bead of solder to prevent good contact. Every G-E Lamp with a medium screw aluminum base will be this design so you get *lower maintenance costs because it is stronger, more dependable.*



5 GLASS "BRIDGE" KEEPS PAR LAMPS UP TO PAR—Exclusive feature in General Electric PAR Lamps grips the lead wires, keeps filaments in line so shock and vibration won't distort the beam pattern. You get *more light in a given area—a more uniform light, too.* Now available —100-watt size in six colors.

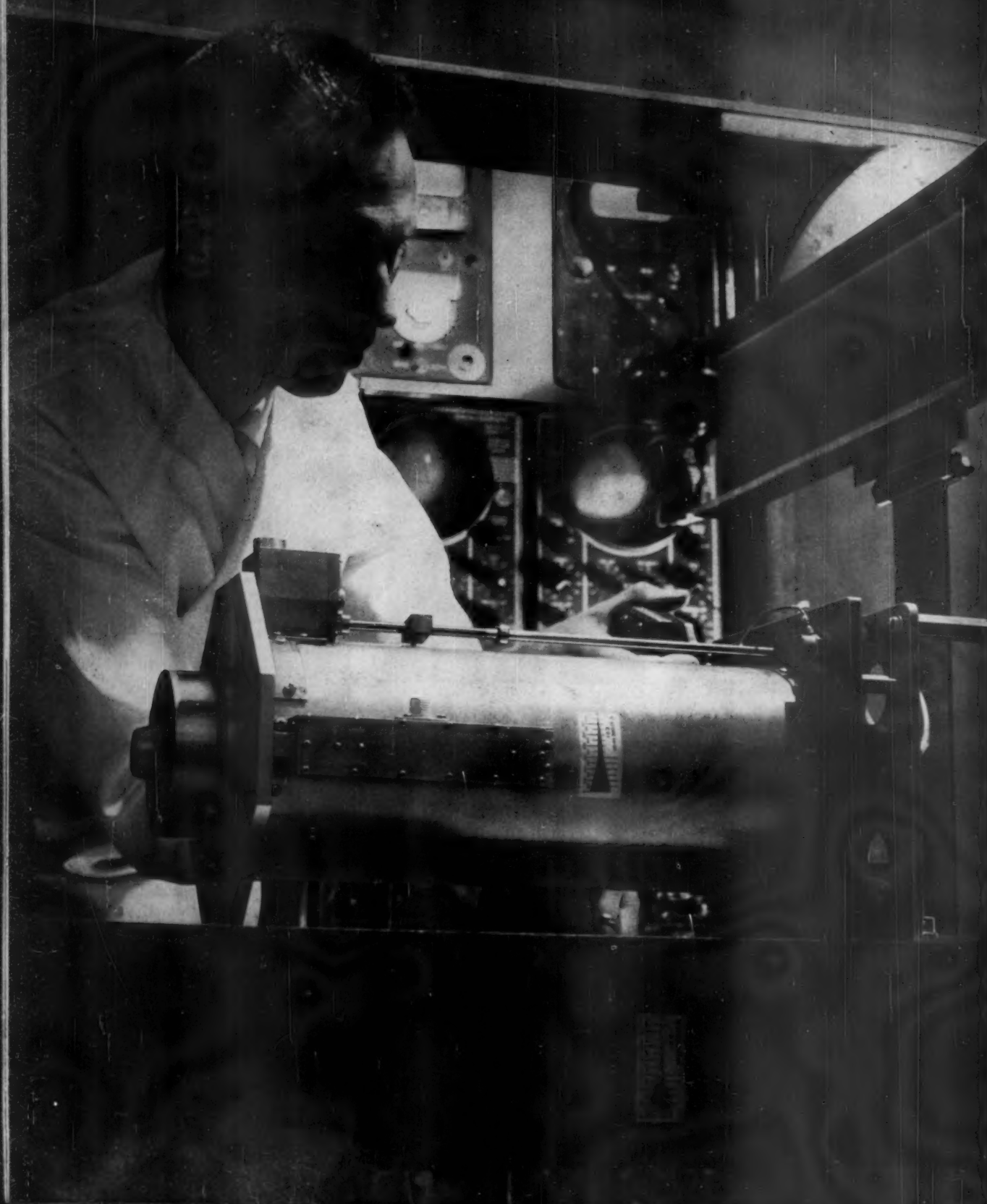
These examples of recent G-E "out ahead" lamp improvements are evidence you get the finest lamps first, when you specify G-E Lamps. Your G-E Lamp distributor will give you details on these or any other General Electric Lamp. General Electric Co., Large Lamp Dept. C-035, Nela Park, Cleveland 12, Ohio.

Progress Is Our Most Important Product

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Florida

...environment for research and development



Florida

...environment for research and development

For one of its most vital activities — research — industry is finding that Florida provides an ideal location.

Some companies, such as Piper Aircraft Corporation, chose Florida locations originally for research activities and later decided to open factories as well. Piper, which established a development center at Vero Beach in 1957, is now adding a 400-man aircraft plant.

Others, such as Univis Lens Company, have found it advantageous to combine research and manufacturing with a single move to Florida. Ohio research and production facilities, and the New York plastic division are being brought to Fort Lauderdale. Some 75 key Univis technicians willingly agreed to move with the company.



In 1958, when the USI Technical Center, a division of U.S. Industries, Inc., was established in Pompano Beach, President John I. Snyder, Jr., stated that among the area's greatest attractions are "...many people with the specific kinds of engineering and scientific background which are required in our research and development work."

SKILLED PERSONNEL A KEY FACTOR

Several giant corporations, including Pratt & Whitney Aircraft, have publicly stated that Florida's ability to attract skilled personnel was a major reason for locating in the state. Recently, General Manager Charles T. Foelke commented: "In actual experience, we have had an average of 18 applicants for every job available."

Frequently, a large organization's success with one division's research and development operation in Florida has led to the opening of a second facility. An example is Minneapolis-Honeywell which in 1957 established an inertial guidance center in St. Petersburg. Last summer, the company opened a million dollar center for research and development in semi-conductor products near West Palm Beach.

Prototypes are checked by Electronic Communications, Inc., St. Petersburg, in the Southeast's best equipped environmental laboratory. Shown is vibration holding device with frequency range of 5 to 2000 cycles per second and maximum output of 1250 force pounds.

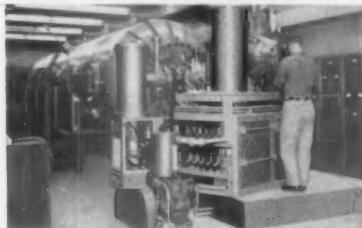
FROM NYLONS TO NUCLEONICS

Industrial research in Florida covers widely varied fields. Chemstrand Corporation dedicated a nylon development center at Pensacola last winter. International Minerals & Chemical Corporation studies ores from all parts of the world at its experiment station in Bartow. Chris-Craft Corporation operates its engineering and research facilities at Pompano Beach.

GENERAL NUCLEAR ENGINEERING CORPORATION is designing a nuclear power plant for Puerto Rico in its headquarters at Dunedin. In Miami, Dade Reagents, Inc., performs large scale serology research and in the same city National Spectrographic Laboratories, Inc., provides analytical services for industries throughout the United States and overseas.

STATE CO-OPERATES IN TRAINING

Fifteen four-year colleges and universities are located throughout Florida



10-million electron volt Van de Graaff accelerator at Florida State University.

including the University of Florida at Gainesville, Florida State University at Tallahassee, the University of Miami at Coral Gables and the new University of South Florida at Tampa.

Work by the University of Florida on the proximity fuse in World War II and the development of prestressed concrete are internationally famous. The Florida Engineering and Industrial Experiment Station is described by Dean Joseph Weil as "research creating industry of tomorrow."

Fundamental research programs in physical, organic, inorganic, analytical chemistry and biochemistry are in progress at Florida State University. Florida is the first state in the nation to sponsor in its university system a program of nuclear science and engineering research with the cost of major facilities at state expense.

State co-operation has been a strong factor in the decision of such firms as Sperry-Rand to locate in Florida. During 1958 and 1959 alone, 27 new plants designed primarily for research and engineering were opened and expansions were announced by seven existing plants in the same category.

DIVERSIFIED INDUSTRIAL GROWTH

In rate of overall industrial growth, Florida ranks first among the major states. Manufacturing employment has more than doubled in the last decade and is now well over 200,000.

Ten years ago, only a few hundred Floridians were employed in the manufacture of electrical machinery. Today the figure is almost 9,000.

In the chemical industry, 92 new plants have opened in the state in the last three years. The chemical complex in northwest Florida is now one of the fastest growing in the nation.

In Florida's "electronics triangle" bounded by Orlando, Cape Canaveral and Melbourne, more than 22,000 persons are employed in manufacturing and research in electronics, aircraft, missiles and scientific instruments.

Miami has become a world center for aircraft service and maintenance with over 200 manufacturers and distributors in the area.

Headed by Tampa and Jacksonville, the state's 13 deep water ports handle more than half a billion dollars worth of foreign trade annually.



NEW PLANT LOCATION BOOKLET

If you are interested in opening a plant or branch in Florida, a new booklet explains in detail how the Industrial Services Division of the Florida Development Commission can help you choose the most advantageous location.

This booklet describes special studies which can be prepared for potential locations covering markets, manpower, transportation and supplier industries as related to your individual needs.

Meetings with community leaders may be arranged, but unless authorized, your identity will not be revealed.

Write to B. R. Fuller, Jr., Exec. Dir., Florida Development Commission, 4003-2 Carlton Building, Tallahassee.

For more general information about industrial Florida, ask for the nine-part file folder, "Profile of Progress."

See industrial Florida for yourself. Write State of Florida, Dept. B, Carlton Building, Tallahassee, for a 100-page color "Vacation Guide."

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BUSINESS OUTLOOK

BUSINESS WEEK
SEPT. 17, 1960



Steel came back this week from its holiday low, a dip in which Labor Day was the excuse for shutdowns of varying duration.

But the comeback is anything but lusty.

In fact, persistent slowness in steel throws a dreary shadow over results now being reported for August that are only fair to start with.

The very smallness of steel's rise in the first full week of September emphasized the fact that recent operations were exceeding incoming orders (even though they have been little over 50%).

This can't go on for long. Either steel demand goes up or the rest of manufacturing has to come down.

Steelmen can't be too confident of a pickup. You get a glimpse of that in the market for steel scrap whose price often is barometric.

The price has turned down in the last few days after several weeks of being barely steady. Iron Age's composite for the best grade of scrap has dipped from \$32.50 to \$31.83.

Demand for scrap is down not only because of low mill operations but also due to the long-term decline in scrap's relationship to pig.

Store sales continue to show the consumer's cautious attitude.

Not that last month's sales of all types of retail establishments were bad by any measurement; just that they still aren't showing the kind of rise many people had hoped for.

And, in that, they characterize other results for last month.

Stores rang up more dollars in August than had ever before been taken in during that month, topping a year ago with the aid of an additional trading day but one less Saturday.

Total sales, seasonally adjusted, are estimated at \$18,154,000,000. That was almost exactly the same as July (July lost \$150-million on revision of the preliminary figure published a month ago).

September sales doubtless will show up very well against a year ago—but the comparison will be a distortion because September last year was a steel-strike month in which the pinch was evident.

But if September shows no better than the previous two months, the quarter's total will be just short of \$54½-billion.

That would be down from \$56-billion for the second quarter and a whisker behind even the first quarter. In fact, it would run only about \$200-million ahead of a year ago.

Consumers' standoffishness toward durable goods (whether from lack of money or lack of interest) must be viewed with some alarm. Here, if any place, the consumer might help business with a little push.

But, for the second month in a row hardgoods ran substantially behind a year ago. Autos and automotive products have been particularly disappointing, but there aren't many bright spots elsewhere.

BUSINESS OUTLOOK (Continued)

BUSINESS WEEK

SEPT. 17, 1960

Nondurable goods, for their part, look very sturdy compared to any month prior to last April. However, June was the only month that had shown any bounce since Easter. Both July and August were about \$100-million under the estimate for June—and any dip now is worrisome.

—•—

Official estimates of personal income for last month would hardly justify the opinion that consumers are terribly hard up.

They took in \$407.7-billion (at a seasonally adjusted annual rate) in August, up from \$407.3-billion in July.

Concern over personal income—and it is beginning to become real—would have to center on the rate of gain.

Since April, month-to-month gains have been narrowing steadily.

Just look at the figures: April topped the March rate by \$4.9-billion, May rose \$2.8-billion, June \$1.4-billion, July \$1.2-billion.

Alongside any one of those, August's \$400-million gain is puny.

—•—

Total employment took a very moderate dip in August. But the decline was in agriculture with nonfarm jobs scoring another new high.

The gain in nonfarm employment was substantially smaller than is usually to be expected from July to August. This, in turn, helps account for the fact that unemployment fell less than usual.

Unemployment fell by more than 200,000 but, after seasonal adjustment, the 3,788,000 jobless are magnified to 5.9% of the labor force.

Making allowance for seasonal factors, nonfarm employment has moved up or down hardly at all since April. In factories, the trend has been slowly downward since May.

At the same time, hours worked are averaging slightly less.

This, obviously, has halted the rise in factory payrolls—which hardly puts workers in a spending frame of mind.

Disappointing employment trends show up most strikingly among blue-collar workers in factories turning out durable goods.

Here the decline has gone on for six successive months and amounts to more than 5%. Layoffs, numbering a net of 392,000, are more than in corresponding six-month periods of 1953-54 and 1957-58.

Layoffs center in hardgoods because, obviously, they've been having the hardest time. And they hit the blue-collar workers, for management hangs onto supervisory and white-collar help, even when cutting costs, until the going really gets tough.

If recessions are triggered by declines in durable goods (and they seem generally to be), and if any early sign of management misgivings comes in blue-collar layoffs, this is a figure to watch.

The dip in this figure came earlier than in production both in 1953 and 1957.

every pencil notation

EVERYTHING STAMPED
Everything typed

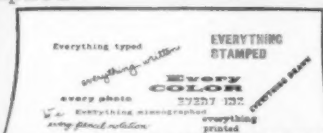
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What Khrushchev Seeks at U.N.

● Soviet Premier's visit is latest maneuver in his reversion from Camp David diplomacy to aggressive tactics.

● It puts him on world stage for attacking U.S. and playing up to Asian and African nations—and for building his own prestige in Communist bloc in rift with Red China.

● Russia's new aggressive line has left U.S. on the defensive.

A year ago this month, Soviet Premier Nikita Khrushchev arrived in this country on a visit that ended with private talks with Pres. Eisenhower at Camp David. From those talks emerged the "Spirit of Camp David," which held that the Communist and Western powers could live without destroying one another.

Next week, the same Khrushchev will come to this country aboard the Soviet ship *Baltika* to lead his delegation to the United Nations' 15th General Assembly. But the "Spirit of Camp David" diplomacy has been replaced by a rough-and-tumble Soviet version of ward politics—a minimum of high policy and a maximum emphasis on jabbing and prodding the Western nations any time or place the opportunity presents itself.

• **Same Aim, New Tactics**—The turning point was the aborted summit meeting in Paris last May (BW—May 21 '60, p25). Sometime before that conference was scheduled to open—the experts are still arguing over exactly when—Khrushchev decided that the attempt to beguile the West into giving the Russians what they wanted on Berlin and on disarmament was not working. He called for a switch to aggressive tactics and personally led off with a bombastic performance in Paris.

Khrushchev's basic objective hasn't changed in the last year. It remains, to paraphrase him, the burial of the West. He has tried to keep it in doubt whether his strategy means the destruction of cities or the subversion of political, economic, and social institutions. Indications are that, because the West has military power equal to or greater than that of the Communists, Khrush-

chev favors the subversive over the destructive at the moment.

Khrushchev relies on a combination of political maneuver, economic bargaining, military ventures, and ideological persuasion. In the past year he has shifted his way of using these weapons. As one Washington official puts it: "Khrushchev has swung full circle—from private personal diplomacy to mass public relations."

I. Worldwide Audience

Khrushchev's appearance at the U.N. is one step in a series of events that began with the summit eruption and the withdrawal of his invitation to Pres. Eisenhower to visit Russia. In rapid succession have come: cancellation of Eisenhower's trip to Japan, shooting down of an RB-47 reconnaissance plane, a marked increase in Communist infiltration in Cuba, the trial of U-2 pilot Powers in Moscow, a Communist rush to take advantage of the confusion in the Congo, the exploitation of two defectors from a U.S. intelligence agency, and, this week, new restrictions on travel between East and West Berlin.

• **Immediate Goals**—The immediate aim of these maneuvers is to break apart the Western alliance and to diminish the image of the U.S. as a powerful and reliable leader of the free world.

Khrushchev has chosen the U.N. for his next political maneuver because:

• It gives him a worldwide audience to which he will direct his charges of U.S. aggression, and before which he can prance as the world's leading peacemaker and advocate of summitry.

• The U.N. provides a forum in

which the Soviet Union can identify itself with the aspirations of the nations of Latin America, Asia, and especially Africa. With 14 African nations due for admission to the U.N. during this session, the so-called uncommitted nations have a powerful voting bloc.

• Khrushchev realizes that more crises, such as that in the Congo, are sure to come before the U.N. He wants Russia to be able to exert more influence on them than before, and so will be paying more attention to U.N. politicking.

• **Do-It-Yourself**—The Soviet Premier has a restless, driving personality that makes him eager always to keep the initiative. Though it has not always worked, his faith in do-it-yourself diplomacy is unshaken.

Khrushchev is displaying his personal power and prestige at home and among Russia's satellites. He's demonstrating that he can go anywhere—while Pres. Eisenhower was prevented from visiting Russia and Japan. And his leisurely cruise to Manhattan, with leaders of the East European satellites, demonstrates how secure he feels in his position in the Kremlin.

Finally, the Russian leader can always hope to confuse the U.S. in the midst of its election campaign.

II. Object Lesson for Mao

Khrushchev has still another reason behind his trip, one that's more subtle and complicated. It arises from the rift between Russia and Communist China. No one outside the Iron Curtain is sure how deep the cleavage goes. But it's clear that at least a tactical argument, in ideological terms, is in full swing.

Mao Tse-tung, the Chinese leader argues that the conquest of the Western powers can come fastest through war. Khrushchev seems far more impressed than Mao with the dangers of war, and argues that the capitalist nations contain the seeds of their own destruction, that all the Communist powers need do to hasten the collapse is to keep the pressure on.

Khrushchev will be making his point to Mao while he stands on the rostrum of the U.N. addressing the gathered delegates. In his U.N. actions, as in

the moves of the past summer, Khrushchev is giving Mao an object lesson in political warfare.

• **Pitch at U.N.**—Most likely, he will make his pitch quickly, then leave. The General Assembly has an agenda of some 85 items and will be around until late in the fall, at least. Khrushchev is committed to go to North Korea in October.

The Soviet chief will condemn the U.S. for aggressive actions. He'll probably present essentially unchanged disarmament plans and possibly a proposal for economic aid to Africa.

He may criticize U.N. Secy. Gen. Dag Hammarskjöld's handling of the Congo situation, where the Russians have been not-so-quietly meddling. At midweek, the Russians demanded a meeting of the Security Council to debate the matter.

• **Cuba and Africa**—After leaving New York, Khrushchev is scheduled to travel to Havana, where the Cuban radio reports he will get the biggest reception ever given a foreigner. He would like to attend Mexico's celebration of its 150th year of independence but Pres. Lopez Mateos has made it plain that Khrushchev is not welcome. From Cuba, Khrushchev may fly to Africa to visit Guinea, Ghana, and Ethiopia.

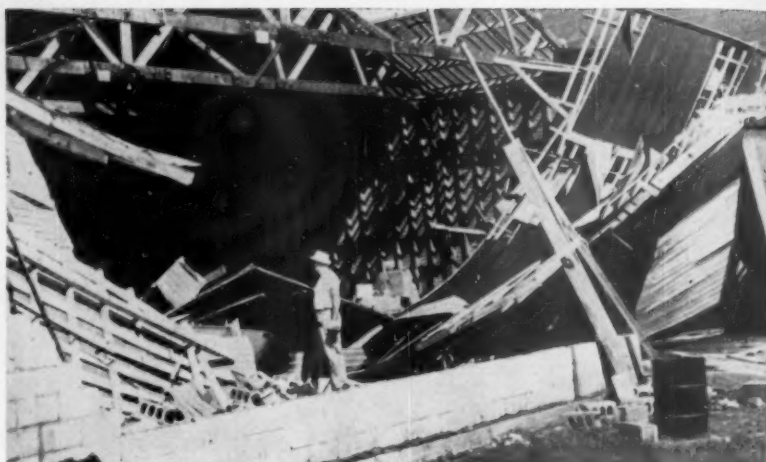
III. U.S. Counter-Moves

Confronted with this series of Soviet moves since the summit breakup, the U.S. has been on the defensive. It reacted to Communist pressure in Cuba at first with patience, hoping that revolutionary leader Fidel Castro would change his ways. When that didn't work, the U.S. retaliated with economic sanctions, and got the Organization of American States to censure Castro mildly at its San Jose meeting (BW—Sep. 3'60, p81).

In the Congo, the U.S. has supported the U.N. with money and logistics. As the Berlin travel restrictions grew tighter at midweek, Washington was reported to be urging Bonn to retaliate with restrictions of traffic to and from East Germany.

At midweek, the U.S. was also moving to contain Khrushchev during his stay in New York. The State Dept. notified the Russian delegation that their leader would have to remain on the island of Manhattan. It said that security problems in other areas might be too great, in light of Khrushchev's recent inflammatory statements. Khrushchev has protested vigorously.

At midweek, also, Pres. Eisenhower announced that he had decided to speak at the General Assembly before Khrushchev got the floor. He hopes to beat the Russians to the punch with a proposal that appeals to the African and Asian nations.



HURRICANE Donna's angry winds caved in part of a citrus factory in Bartow, Fla.

Florida Values Begin to Tumble

Florida, its boom tarnished by a tourist and construction slowdown, suffered a staggering blow to pride and pocketbook when Donna, the first major hurricane to hit the state in 10 years, left 12 dead and a billion dollars in damages.

The same storm slammed up the East Coast, battering Middle Atlantic and Northeastern communities in its path. But damage was not so severe as in Florida, although losses ran into the millions.

• **The Damage**—In Florida, the Keys virtually were leveled, one-third or more of the citrus crop was ruined, and homes and buildings were smashed from Marathon to Jacksonville. Floridians wondered if this was to be a repeat performance of the storm disaster that they faced in 1926.

Then, winds of 160 miles an hour devastated Miami and burst the great real estate bubble of the 1920s. It wasn't until after World War II that Florida began to see the sunshine—and investors' money—again.

As the big cleanup began, real estate values on the Keys, which had risen tenfold in recent years, began to tumble. There was talk of shoddy construction and lax enforcement of building codes.

Above all, there was fear that thousands of Northerners, who had bought lots in Florida or invested in other ways, might back out and leave the numerous land development companies with lots of downpayments and plenty of soggy land.

• **Varied Reaction**—One Miami realtor commented: "This storm will have a definite adverse effect on home sales."

But Frank Mackle, president of General Development Co., the biggest of the land development companies, was much less pessimistic. He said: "Donna

will deal our gross picture no more of a lasting blow than a big blizzard deals to New England or a flood to the Midwest. The many things that cause Florida to grow economically . . . are still with us after the storm just as they were before."

D. R. Mead, mortgage banker, also is optimistic. He pointed out that investors who put mortgage money in Florida projects are insured. "As long as you can get insurance," he said, "you can get the investor."

The Keys are likely to bear the brunt of the economic blow just as they bore the brunt of the storm.

A California syndicate that recently bought the plush \$3.5-million Indies House on Duck Key, for example, had been eyeing additional investments nearby. But the hotel was battered unmercifully and this is bound to affect the Californians' investment plans.

Another fear of Floridians was that extended wind storm insurance rates, which had declined steadily for the last 10 years as severe hurricanes missed the peninsula, would rise again.

One happy effect of the storm was to put back to work temporarily thousands of construction workers who were idled by the construction slowdown.

The storm also was a boon to aluminum shutter companies, hardware and drug stores, supermarkets.

• **Private Worry**—With the job of rebuilding well under way, business and political leaders took stock. To the public, they said Florida would bounce back from its temporary setback.

But to insiders, their comments were more blunt. Worried, they generally agreed on one thing: Real estate and resort development on the Florida Keys will come to a halt and will be a long time getting up steam again.

Science Turns Up at Hustings

● For the first time in political history, the pursuit of pure science shows signs of becoming a campaign issue.

● Vice-Pres. Nixon has issued a "position paper" advocating establishment of federally aided institutes for basic scientific research.

● Sen. Kennedy hasn't yet offered any specific proposal but may advocate a new Department of Science.

This year, the support of science shows signs of becoming an intriguing new political issue. Rarely before has the search for pure knowledge seemed an issue in which a Presidential nominee could interest voters even in Princeton, much less in Dubuque.

What is different in 1960 is that each candidate is already, or soon will be, appealing for support on the ground that he will do more for science and scientific research than would his opponent.

I. Bi-Partisan Interest

Last week, Vice-Pres. Richard M. Nixon presented his political position on science. He had given a lot of thought to it, and made it his second "position paper" for the campaign, just behind one in which he discussed Communism.

What Nixon proposes in his discussion of "The Scientific Revolution" is creation of a number of federally aided institutes for basic research—perhaps similar to the famed Institute for Advanced Studies at Princeton, where Albert Einstein and other scientific giants were given a place to work. The Princeton institute, however, was set up under a private grant.

Nixon's idea is something that few scientists are likely to oppose outright. But there is real division of opinion in the scientific community over what sort of federal support would be welcome and how much federal control it might involve. Nixon's paper doesn't try to specify how many institutions might be desirable, how many scientists might profitably work in them, how much money it might take to get started, or what areas should be explored. But he does propose that state governments and private sources contribute to their support. And he has ideas on how they might be administered.

• **Kennedy's Position**—Up to now, Sen. John F. Kennedy hasn't made any precise proposal in the science or research field. He keeps hammering on one rather general claim—that the Re-

publican Administration has allowed our progress and prestige in vital scientific areas to lag badly. But Kennedy's answer does not as yet involve basic research. Mostly he has talked unspecifically about more urgency, more funds, more leadership. Beyond that, he has advocated an arms control research institution that would tackle the whole matter of world disarmament. He also co-sponsored a bill with Sen. Lister Hill (D-Ala.) that established a national medical library to promote medical research.

Right now, neither candidate sees any specific dispute over science shaping up. There's no doubt, however, that Kennedy's general attack would carry more political weight if, between now and Election Day, the Russians should come up with some dramatic new achievement—putting a man into space, for instance, or on the moon. Kennedy's aides are thinking seriously about one concrete proposal that might be pushed—creation of a Science Dept. in the Cabinet, as Pres. Eisenhower created the Health, Education & Welfare Dept.

II. The Research Billions

Nixon's proposals, and any spending plans that Kennedy may bring forward, would continue a process already under way. In the last four or five years, spending on fundamental scientific research—public and private—has ballooned from about \$250-million a year to \$1-billion a year.

Colleges and universities spend over half of this billion dollars. Second biggest spender is industry. But in the past decade, it's the government itself that has increased the percentage of its fundamental research outlays the most. About two-thirds of the total basic research money goes for work in the physical sciences.

But dollar spending doesn't give a completely reliable picture of how much more work is being done today. Cost of doing fundamental research has risen sharply in the past decade, with

researchers' salaries probably the biggest factor in the rise.

Nixon's proposal for a series of small research institutes would complement and not usurp the roles of any existing research groups. Such centers purposely would be kept small, and scientists would devote their full efforts to basic research aimed at the increase of knowledge without any regard to its application.

In such institutes extensive facilities aren't always required. Basically, what many a scientist needs is a salary, an office with a blackboard, perhaps a laboratory with some equipment, all in a congenial environment including association with fellow scientists.

The centers would function under the National Science Foundation, with governing boards set up by cooperating universities.

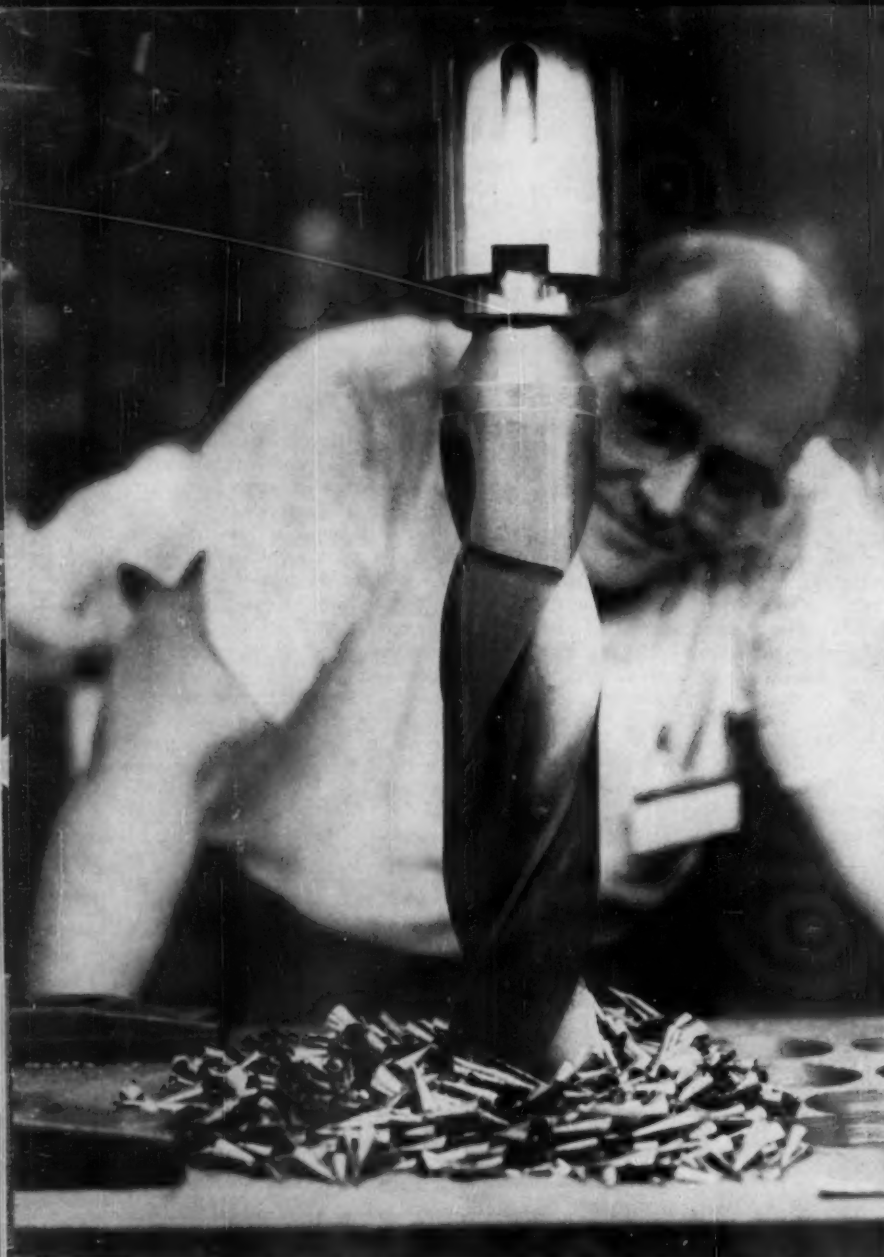
National Science Foundation officials—who now administer only some \$60-million to \$70-million to support basic research—openly praise Nixon's suggestion.

Altogether, Congress voted some \$175-million for the foundation to carry out its research efforts this year. But the amount earmarked for basic research forces the foundation to turn down about half of the proposals it receives from scientists each year that show merit. Foundation officials say they would like to be able to finance at least two-thirds of the proposals they receive from scientists. Unofficially, some spokesmen say it would take about \$250-million a year to provide these scientists with the necessary laboratories and equipment, but this would not include salaries.

• **Nixon's Advisers**—Nixon's position paper on science represents his own thinking after turning to outstanding scientists, both in government and out, for advice. Dr. Herbert F. York, head of the Pentagon's research and development program, is one of his close advisers.

In the universities, Nixon turns to such leaders as Dr. John E. Burchard, dean of the School of Humanities and Social Sciences at Massachusetts Institute of Technology; Dr. John T. Heller, director of the New England Institute of Medical Research; Dr. Joseph Kaplan, professor of physics, University of California at Los Angeles; and Dr. Philip W. Thayer, dean of the School of Advanced Studies, Johns Hopkins University.

Associates say Nixon took the lead in formulating his science plan and used the time he was in Walter Reed Hospital for a knee injury to polish his position paper.



RADIAL DRILL by Fosdick turns steel plate into Swiss cheese in demonstration.



ENGINEERS check accuracy of part in a Jones & Lamson optical comparator.



THRONGS JAMMED main hall of Chicago's

Electronics the Star at Machine

Something over 80,000 metal working enthusiasts plowed through heat that reached 120F in the past two weeks down miles of machinery-packed aisles as the U. S. machine tool industry held its biggest-ever show in the International Amphitheatre at the Chicago stockyards.

Spread before the swarming crowds by the 123 exhibitors was more than \$25-million worth of machine tools—equivalent to some 5% of the annual sales of metal cutting equipment. The engineers, foremen, and production

men, and buyers came from all over. GM's Delco Div. alone sent 200; there were 1,000 foreign buyers in the crowd.

In the machine tool trade, the exhibition is of special importance. It is held only once every five years. In between, members of the National Machine Tool Builders Assn.—200 firms that account for the lion's share of the industry's sales—are under agreement not to exhibit their wares except in their own plants.

• **No Selling**—Thus the show is a twice-a-decade review of the progress and

trends of the industry—and a shot in the arm at times like these when machine tool makers face declining backlogs and thinning new orders. As a show, it's strictly for the technical men. Selling from the floor is forbidden, with the haggling exiled to hospitality suites in Chicago's hotels.

• **Here to Stay**—This show's big trend was unmistakable: Electronics is well on its way to taking over the machine shop. At the 1955 show, tape-controlled machines were mostly in the rumor stage; some figured they were



ENGINE LATHE shown by R. J. LeBlond Machine Tool Co. was one of several on display that cut tapers and radius curves under direction of punched tape.



PAPER TAPE controls were a feature.



International Amphitheatre despite fierce heat at machine tool show.

Tool Show

just a pest that would soon go away.

This time, virtually every maker of cutting tools at the show had on display one or more machines that can run automatically, guided either by punch or magnetic tape. Frequently, the electronic or electric guide system ran to a third of the total cost of the machine. What's more, for the first time, machines were shown that had been designed from the start to run automatically. The importance here is that tape controls keep a machine running longer and faster than any human operator can;

so the equipment has to be designed to take extra punishment.

With its complex controls and more rugged frames, the new generation of machine tools bears some towering price tags. One of the cheapest—and best-selling—machines, a turret drill by Burg Tool Mfg. Co., Inc., costs \$30,000-plus. Kearney & Trecker Corp. asks more than \$170,000 for its Milwaukee-Matic, a big tape-controlled milling machine with automatic tool changing; even at that price K&T has sold more than 100 of them. Prices can go over \$250,000 for tape-controlled turret lathes or milling machines and planer mills that can cut curves and contours.

• Prospects—These giddy prices quite

failed to dull the avid gleam in the eyes of shop superintendents and production engineers at the show. But whether the buyers will go along with their hopes is another matter; the metal working industry is already showing signs of overcapacity.

American Machinist, a McGraw-Hill publication, surveyed metal-working companies and found intentions to buy in the next 18 months that could push the monthly dollar value of new orders up to \$79-million; so far this year the figure has been \$42.4-million. The machine tool builders themselves aren't that optimistic, but most of them do feel that the Chicago show should push orders into a durable upward slant.

Tax Deal Killed

Prudential's Carol Shanks is pressured into liquidating tax-avoiding transaction with timber company.

Carol M. Shanks, president of Newark's \$16-billion Prudential Insurance Co., who had made a deal that would have saved him about \$400,000 in U.S. taxes, was compelled under pressure this week to liquidate the transaction.

• **Official O.K.**—New Jersey's Banking and Insurance Commissioner Charles Howell, gave the deal a clean bill of health after a three-month investigation. But in the charged atmosphere that has resulted from disclosures of corporate conflicts of interest at Chrysler Corp., Shanks felt that "as president of a mutual insurance company, I am not entitled to make the same kind of arrangement that is available to other executives." Shanks added, ruefully, "I think this is unreasonable."

The transaction involved a complex deal in which Georgia-Pacific Corp., the No. 1 producer of plywood, and a big borrower from the Prudential, bought 13,000 acres of prime Oregon timberland. The land—worth about \$8.4-million—was owned by Timber Conservation Co. Timber Conservation wanted to sell out to G-P. But G-P, principally for antitrust reasons, didn't want to buy the company itself; it preferred to pick up the land, minus the corporate superstructure.

So Shanks, who is also a G-P director, bought Timber Conservation, and then immediately turned around and liquidated the company by selling its land to G-P. But G-P, seeking to hold down its debt ratio, put up only \$4.4-million in cash; the rest was in promissory notes secured by the timber. Shanks, in turn, borrowed \$3.9-million of the \$4-million he had to put up to finance the deal from the Bank of America, with interest payments on this loan of about \$150,000 a year.

• **Tax Angle**—The deal with G-P was designed to reimburse Shanks for his interest costs. This means that Shanks—who presumably is close to the 90% tax bracket since his salary is \$250,000 a year—was deducting interest payments at a 90% rate, while paying taxes, after the first six months, on his capital gain (the reimbursement of interest) at 25%.

The conflict-of-interest question is serious because the Prudential's lending relationship with G-P and Shanks' position on the board of G-P, was an important reason why Shanks was offered the deal in the first place.



JUST A FEW of millions who spent vacations under canvas this summer crowd Beaverkill

Vacationers Take to

Increasingly, middle-income families are roughing it instead of going to resorts—a trend that pleases camping equipment manufacturers but worries hotel operators.

"There's a change in the vacation habits of the whole middle class," says a Southern California tourist agent with a leaning toward sociology. "A family used to rent a cabin for their vacation, but they don't like that any more. Now they get out in the woods with their tent."

"Maybe the international situation has something to do with the great rush to go camping," says the manager of a Chicago tourist information service, who reads the headlines. "People seem to feel they should learn how to rough it in case of a national emergency."

"They go camping because it's fun," says an Upstate New York campground operator, who watches the promotional angles. "Also it's inexpensive."

• **Swing to the Outdoors**—Whatever the reason—a deep social change or anxiety about the H-bomb, a fad or a way to cut costs—more people than ever spent their summer vacations camping this year. In fact, in scores of areas of the nation, the campgrounds were the only vacation facilities that were filled to anything near capacity this summer. What the U.S. National Park Service calls "camper days"—the count of each person spending one night in National Park campgrounds—is 8% higher this year than last. There has also been an increase—its size uncertain because the business is so informal—in the number of private campgrounds operating in the U.S.

• **Middle-Priced Resorts Hurt**—All this makes the gasoline companies, the camping equipment manufacturers and retailers, and the campground operators

happy. But it leaves plenty of middle-priced resort operators anxious. In New England, for instance, most of the middle-priced resort and motel operators are depending more and more on vacationers who make their reservations in advance and much less on the thousands of transients who stop one or two days. The reason apparently is that vacationing families heading for distant campgrounds use their tents all along the way; they don't even spend nights in motels along the highways while they're on their way to their destinations.

• **Hard Miami Summer**—In Miami Beach where hotels cater to middle-income vacationers during the hot weather this summer went badly. Some of the larger hotels got by with the help of the convention trade. Those that failed to get this business had a hard time and some are saying that if this winter isn't a great deal better than last many hotels will be on the brink of bankruptcy. The trouble, says one Miami Beach hotel executive, is that low air fares, cheaper hotel rates, and heavy publicity make the Caribbean islands as cheap as—and to many more attractive than—Miami Beach.

From Hawaii come complaints that the summer tourist season left Honolulu's hotels at less than full occupancy rates, even though the islands' number of tourists is running almost 25% ahead of last year. Hotel construction in Hawaii has outstripped the growth of tourist business. That's why the Sheraton chain, which bought four Hawaii hotels last year and had plans



campground in New York's Catskill region.

Backwoods

to build a fifth this year, has postponed building until 1961.

• **Plush Resorts Booked Up**—In Hawaii, as on the mainland, the high-priced tourist business is a different story. Plush hotels and motels along the coastlines or high in the mountains that offer their rooms at \$20 a day and more have been getting near capacity bookings all through the summer. If the clients of these resorts do get the urge to be outdoors, they're likely to go on safaris in Africa rather than go camping in Yellowstone.

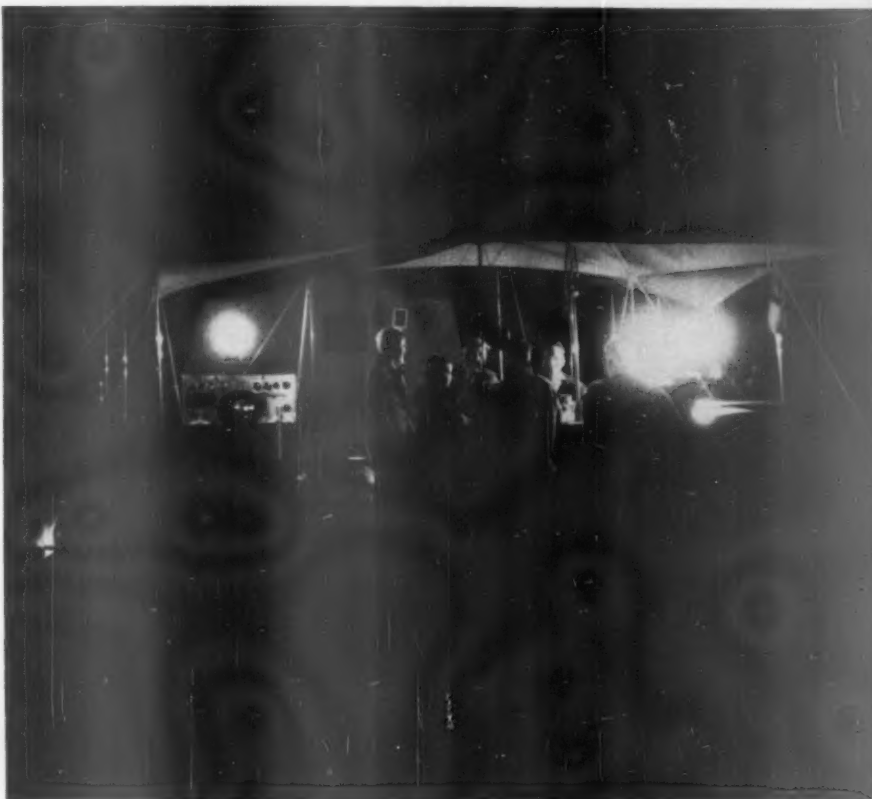
But in the great middle-income range the switch from hotels and motels to tents is moving fast. In Canada, where the Ontario government is opening up larger tracts of provincial park land to campers, resort operators are more than "just concerned." They have already sent several deputations to protest to government officials that new camping areas automatically mean a blow to their business.

• **Backwoods Are Crowded**—Old-hand campers in Canada are about as distressed as the resort operators. They complain now that all their favorite camping sites are overcrowded and they have to go deeper and deeper into the woods each year to avoid the crowds.

The same pressure on camping facilities arises in California. The National Park Service says that Yosemite National Park's campgrounds were a little less jam-packed this summer than last, but to old hands it still seemed that Yosemite had been made over into a vast canvas housing development. Rugged campers have to get into wild country to avoid the crowds. Pack trips into the High Sierras, until recently a preserve for the hardy, set off so well equipped now that whole family groups—including grandmothers and grandchildren—are hitting the trails.



NEW, LIGHT equipment helps spur swing to camping. Vacationers who used to stay at middle-priced resorts now put money into outdoor stoves, refrigerators, trailers.



NIGHT IN WILDS holds little discomfort even for novices at camping now that all kinds of camping equipment come at mass-market prices.

Making Autos Vie With Planes

The desolate Bonneville salt flats in Utah are being heated up this week not only by the 100F rays of the sun but by whirling tires of fantastically shaped automobiles like those you see in the pictures. The week marked the beginning of a new British-American competition in the effort to push autos to airplane speeds and crack the world's land speed record of 394.2 miles an hour set at Bonneville in 1947 by the late John R. Cobb of England.

Since Aug. 1, four Americans have been spinning their racers over the 12-mile racing strip. One, Athol Graham, was killed in a trial run. Two others have bowed out. That leaves only one American—Mickey Thompson, driving his \$100,000 Challenger I—to contest the palm with this week's new British challenger, Donald Campbell, who claims his \$4-million masterpiece, Bluebird II, is capable of 500 mph.

At midweek Thompson was still hotly competing. He is already the holder of the U.S. land speed record of 364 mph. Last week his entry, powered by four matched Pontiac engines and running on special Goodyear tires, made a one-way speed of 406.6 mph. through the 1-mile speed trap in the middle of the course where speeds are clocked. That beats the one-way speed of 403.1 mph. also set by Cobb in 1947.

To win the world land speed title, however, a driver must make a return run within 30 min. This is to cancel out any advantages of wind or gradient. Thompson vowed to make another two-way attempt within a week or 10 days.

• **Something New**—Thompson faced powerful competition. The British, determined to hold the record, brought something new to the art of superfast auto racing—a huge and thorough organization, combining the knowhow and financial support of 69 leading British companies.

The American racing cars, in contrast, have usually been virtually home-made, with little assistance except for

specially designed racing tires provided by Firestone Tire & Rubber Co. or Goodyear Tire & Rubber Co. (Firestone has been making racing tires for 50 years, Goodyear for only two). Firestone tires were on 29 of the 30 cars that broke various records in National Speed Week at Bonneville Aug. 21-27, when anyone who pays a fee can race.

• **National Effort**—But for Britain, the world record attempt is a national effort. First there's a trustee council of leading public figures, with the Duke of Richmond and Gordon as chairman. Then there's a steering committee representing a group of leading British companies.

The 69 companies associated with the effort have spent between \$3-million and \$4.5-million in the five years it has taken to create the Bluebird II. The setup provides two reserve drivers and 28 engineers and technicians, an army compared to the one or two mechanics each American racer has had.

• **What It Takes**—Though the car's design is all-important, the effort naturally focuses on the driver. Campbell is the son of the late Sir Malcolm Campbell, first man to drive faster than 300 mph.; he himself holds the world water speed record of 260.35 mph., set May 14, 1959. He says he plans to try for speeds of only 400 mph. or so this year.

Driving a car at airplane-like speeds takes some skill, but even more courage—the ability to “stick your foot in it” early and keep it there despite vibrations, wind pressures, noises that would drive a novice frantic. A car could go as fast with an automatic pilot, but that would be too costly. Men can, and have, gone faster on rocket-propelled sleds, but these were scientific tests with other aims, and the “drivers” were really controlled guinea pigs.

But though the fast car's mechanism and structure count heavily, racing it is still a sport, with the prize not only the world's record, but the satisfaction of proving out the car's design.



AMERICAN hopes in world speed race rest on U.S. record holder Mickey Thompson.



BRITISH Bluebird II, here being unloaded, represents massive British effort. It's 5 ft. high

Bluebird II speeds over Bonneville, Utah, salt flats (below), in trial run.





Mechanical troubles hampered \$50,000 jet-powered Flying Caduceus, driven by 50-year-old Dr. Nathan Ostich, Whittier (Calif.)

physician. He designed it around huge nylon tubeless tires 4 ft. in diameter, specially engineered by Firestone at cost of \$250,000.



ded, high
at wheel wells, has jet engines with 8,000-lb. thrust, aircraft-like air brakes plus four disc brakes, electronic devices to give driver needed data by radio and by projection on windshield.



British driver, Donald Campbell, son of late Sir Malcolm, holds water speed record.

Pollsters Counter Critics' Attacks

● Switching of lead back and forth between Nixon and Kennedy in election polls has raised chorus of critics.

● Pollsters point to refinement of techniques and argue that they measure current opinion, don't predict vote.

● But there's still margin of error, and pollsters fear 1960 may be so close that even a small margin of error can throw out their results.

Since the beginning of this Presidential election year, the published public opinion polls have given a picture of Nixon and Kennedy chasing each other for first place like two men involved in a comedian's revolving door routine.

In the Gallup poll, the lead has changed hands five times since January. Nixon's fortunes have fluctuated from a high of 53% of the "decided" voters to a low of 46%. Kennedy's support has bounced around between a peak of 53% and a trough of 37%. Currently Kennedy enjoys the slim margin of 51% to Nixon's 49%. Despite these gyrations the latest poll shows only 5% of the sample electorate as "undecided."

• **Critic's Chorus**—These results have roused a chorus of criticism from voices as varied as those of columnist Joseph Alsop and Sen. Albert Gore (D-Tenn.). These critics have homed in on three aspects of polls:

Their techniques: The selection of the sample electorate, the small size of the sample, the methods of interviewing those making up the sample.

Their adjustments: The unseen modifications made by the pollsters—such as lumping "leaners" with those who state a solid candidate preference, cancelling out responses by those the interviewers think won't vote, adjusting results according to regional records on voter turnout.

Their effects: The contentions that polls may dissuade potential candidates from running, rule out dark horse candidacies, discourage political contributors and party workers.

• **That Awful 1948**—This criticism of polls for their possible political effects is usually accompanied by the scornful reminder, "remember 1948"—the election when, as one wit remarked, "Harry Truman lost in a Gallup and won in a walk." Dr. George H. Gallup somewhat wistfully complains, "They always go back to '48—they don't consider our record since then."

In the five elections, Presidential and Congressional, since his poll picked Dewey in 1948, Gallup has missed the winner's actual popular vote by an aver-

age of 3.1%. In each of these elections his poll has picked the right party. This represents considerable improvement over the 1948 result, when he missed Truman's winning vote by some 12%.

• **Avoiding Past Errors**—In explaining the improvement Gallup says "We look back to some of the things we did in earlier years and shudder." Some of the things Gallup or his competitors did in 1948 explain that year's debacle. Some used quota samples for their predictions. They would concentrate, for example, on "bellwether precincts," or "swing voter" groups as barometers of the political weather.

This method sometimes works for several elections in a row, then inexplicably comes a cropper. In 1940, four of the five counties that had given the winner a majority in every election since the Civil War went for loser Wilkie.

Another source of error was the tendency of the poll interviewers to pick the "nicer" homes in a given neighborhood and the fact that they also tended to get more refusals to answer in the least prosperous parts of town. Both imparted a "Republican bias" to the results, a bias that bulked larger in the close 1948 election than it had in the earlier Roosevelt elections.

Most seriously, according to the statistical autopsies following 1948, the pollsters stopped feeling the public pulse too early. Pollster Elmo Roper went by the theory that the voters made up their minds shortly after the conventions, and that the greater part of the subsequent electioneering process was waste motion. Gallup's last poll in 1948 came out in mid-October.

• **Newest Methods**—Needless to say, the major polling organizations now continue to conduct their surveys right up until a couple of days before election. Instead of using quota sampling, they follow a rigidly laid out sequence of homes to be approached in localities selected at random. The Gallup poll's procedure shows the great effort made to secure an accurate response.

Gallup's organization gives each pre-

cinct in the country an equal chance to be chosen, in proportion to its population.

Interviewers must then follow a prescribed "time-place" pattern that sets the sequence of homes to be visited, the time of a day to visit them, and which adult member of the household to interview. Interviewers work only in the late afternoons, at night, and on weekends to make sure that they find the proper proportion of workers at home. This arrangement also enables Gallup to hire part-time workers.

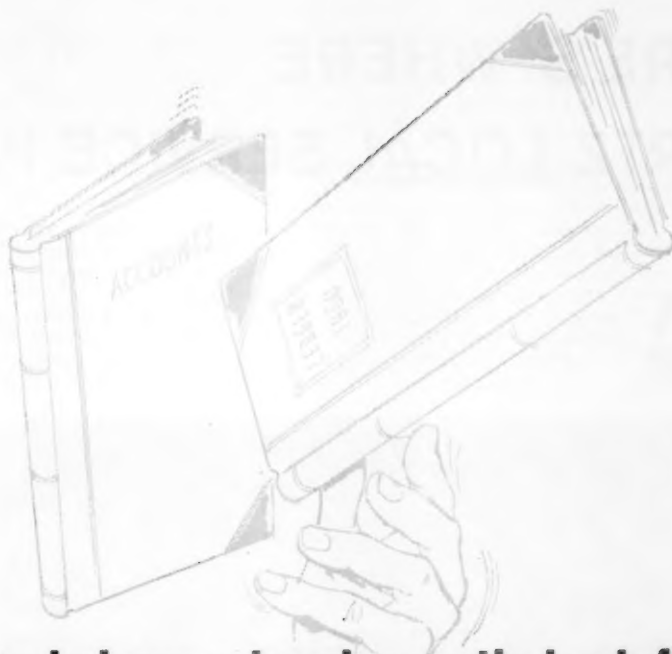
• **Still Sources of Error**—Even with these precautions, errors creep in. The pollsters who publicize their results have followed the lead of their colleagues working for private political clients in adapting motivational techniques to what was originally a nose-counting job. The interviewer will use sentence completion or open-end questions to urge the truth out of a reluctant straw voter (BW—Mar. 26 '69, p29).

These indirect techniques are thought especially helpful in ferreting out irrational or prejudicial factors that may determine the voter's behavior. But they are not self-administering; they require considerable judgment on the part of the interviewer. And when it comes to the tabulating stage, most of the fine gradations get lost in coding.

These slight qualifications can get magnified into some very big errors because of the small size of the sample used. Gallup samples some 1,500 people, a number adequate to give an answer accurate within two percentage points one way or the other in 95 elections out of 100.

With an even smaller sample, A. C. Nielsen Co. believes it can measure the number of TV sets turned on in the country. But while Nielsen is measuring a mechanical phenomenon, Gallup must adjust for such factors as voter turnout and voter decisiveness. The biggest problem is that people seek to use polls not just for measuring but for predicting.

• **Limiting the Test**—Gallup tries to escape this test of his poll by saying that it purports to describe not how people will vote in November but only how they feel at the moment. Further, Gallup seeks to measure only the popular vote, not the electoral vote. In a close election, it is conceivable that the loser in popular votes will wind up in the White House. This has happened three times in American history. It's noteworthy that the pollsters working privately for political candidates—and, so, concerned with electoral rather than popular votes—consider each state as a separate statistical universe and



anybody have a juggler on their staff?



You wouldn't know until it's too late if you have an embezzler working for you. If you do it's someone you'd never suspect . . . a trusted employee who can juggle to his or her heart's content because of that very trust . . . plus a knowledge of the loopholes in your "controls." Such losses can cripple, even bankrupt a firm—because invariably the company is under-insured.

AM's Manufacturer's Blanket Crime Policy

Check and double check your loss controls. And, before it is too late, protect yourself with American Mutual's Manufacturer's Blanket Crime Policy. It is the most modern crime loss protection available, and AM can tailor it to your specifications. Written with a large,

single amount of insurance across the board, it covers all employees, all locations. Yet the price is based on your actual exposures.

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In addition to this low cost crime insurance, AM provides an effective crime loss control plan which deters the employee from becoming dishonest—shows you how to detect and eliminate crime loss exposures. Add it all up and you'll see why it pays you to talk to the AM man about your crime insurance. And about all your casualty insurance needs. Why not look into it? Write American Mutual, Dept. BW-11, Wakefield, Mass.

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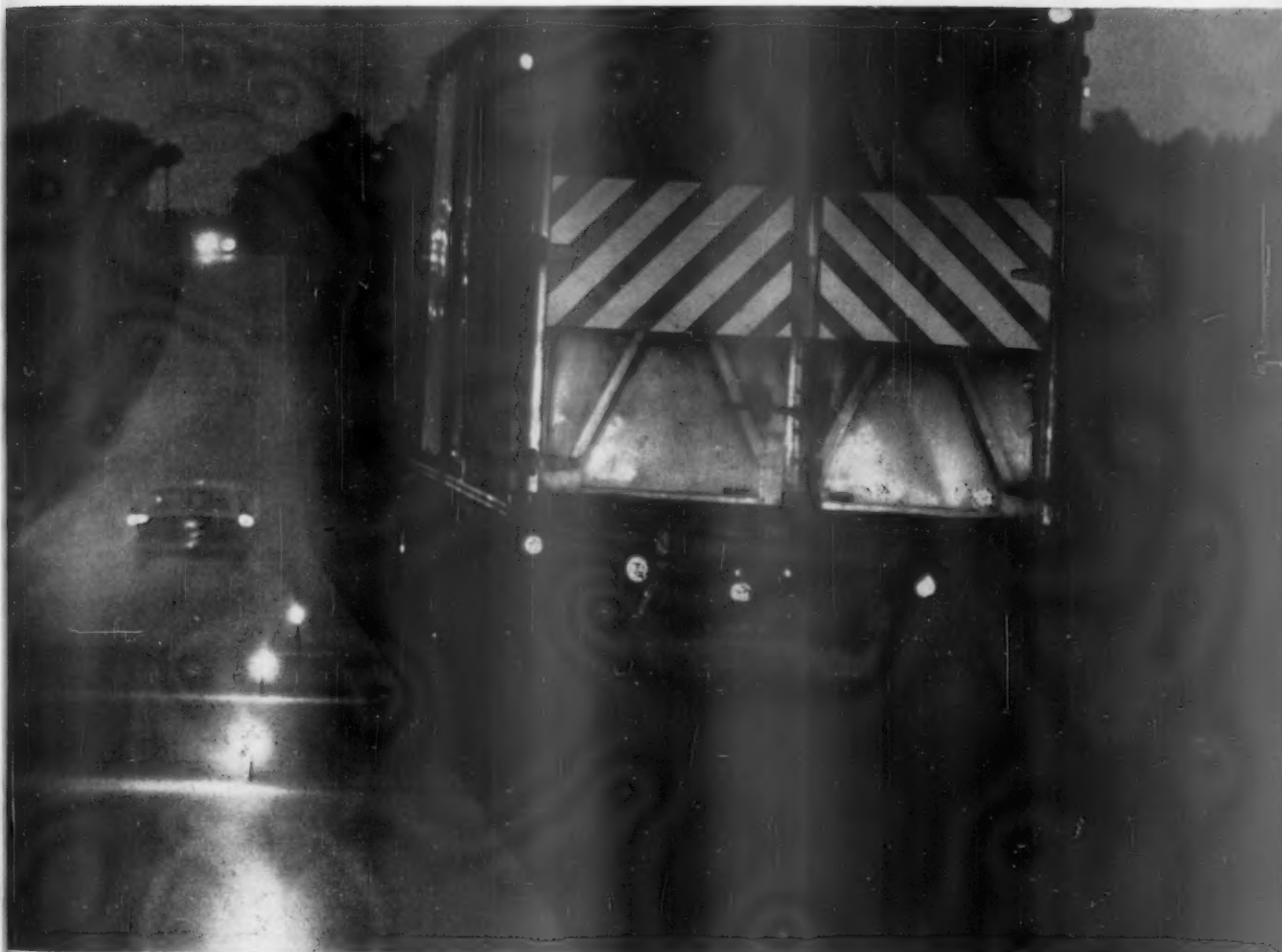
When you lease trucks from Hertz you benefit from the convenience and efficiency of the fully-staffed, fully-equipped Hertz local truck stations throughout the U.S. and Canada. Hertz Truck Lease Service not only puts your truck operation on a new, high level of efficiency . . . it also helps you "find" new money for special equipment, office or plant expansion, and inventory.

Hertz gives you cash for your present trucks. You get new GMC, Chevrolet or other sturdy trucks of your choice—all bearing your company identification—all custom-engineered to your specifications. Or your present trucks can be reconditioned and leased back to you. Either way, you're out of the truck and repair business. And you're back in your business full-time with new found capital that's ready to work.

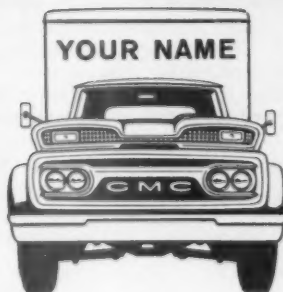
Just one budgetable check per week includes these Hertz services: complete truck maintenance, garaging, washing, licensing, insurance, and emergency road service. Hertz will also provide needed replacement trucks—and extra trucks for peak periods.

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draw up their samples accordingly.

• **Crucial Margin**—The uniqueness of every election also worries the pollsters. After all, they point out, most commercial market researchers get frequent feedbacks on the accuracy of their forecasts in the form of sales results and the like. And an error of 2% in predicting a market share probably wouldn't spell catastrophe for a company. In the winner-take-all situation of an election, though, that 2% difference between 49% and 51% can mean all the difference that counts. Gallup and Elmo Roper both think that 1960 may be one of those years.

Gallup notes that this is the first time the lead has fluctuated frequently in an election year. He has found that subsidiary tests of voter sentiment don't help much this time in discovering which way the wind is blowing. For several elections, his interviewers have

checked separately for an "enthusiasm quotient"—the enthusiasm expressed for a political figure as a man rather than his desirability as a candidate. Up to now, the EQ has an unbeaten track record as a predictor of eventual election success. More importantly, it's a figure that stays rather constant through an election.

But the EQ is no help this year. Kennedy and Nixon have both hovered right around 40%; Eisenhower has enjoyed a quite constant 60%.

• **Critics' Charges**—While it's unlikely that any restrictions will be placed on the pollsters, Sen. Gore has proposed a Congressional investigation. He claims that the polls can preempt the voters' privilege of selecting candidates—alleging, for example, that it was a series of unfavorable poll results that persuaded Gov. Nelson Rockefeller not to wage a primary battle.

Antibiotics on Kefauver Carpet

Senator attempts to show that drug makers are reaping high profits on antibiotics sales. His subcommittee soon will turn its attention to remedial legislation.

The Senate Antitrust Subcommittee investigating drug prices laid its last big cards on the table this week with an "expose" of antibiotics. With hearings completed on major ethical drugs, the committee prepared to rest its case for tighter regulation.

The committee attempted to show the same pattern of identical prices and high profits in antibiotics that it has been trying to bring out since last December for steroid hormones, tranquilizers, and antidiabetic drugs. The drug manufacturers scorned the committee's arithmetic and gave their own profit-to-sales story.

Sen. Estes Kefauver (D-Tenn.) announced that one more session of hearings after the November election to wrap up vitamins, sulfa, and other products. Then he will hold hearings on legislation he hopes to push in the next session of Congress.

• **What Kefauver Wants**—Kefauver is ready now to write the prescription for what he thinks ails the U.S. drug industry. He thinks he has found:

- High promotion costs accounting for about one-third of the price of many prescription drugs.

- Promotion practices "overselling" some drugs to physicians, particularly in persuading them to prescribe by trade name instead of generic or chemical name.

- Inadequate government regulation of quality making physicians wary of less expensive but equally good off-brands.

- A proliferation of nearly identical products confusing the physician.

- Possible collusion on prices and patents.

- Unduly high profits in an industry that Kefauver says has a "public responsibility" to keep prices down.

The senator thinks the ability of drug companies to charge high prices is due largely to common use of trade instead of generic names. He has introduced a bill calling for licensing of pharmaceutical houses and requiring the Food & Drug Administration to pass on the "efficacy" of new drugs as well as their safety. He reasons this would encourage doctors to prescribe cheaper drugs by generic names.

He and other Democratic members of the committee also are concerned about medical advertising and promotion. They believe it not only "oversells" one product as opposed to another, but also often fails to warn the physician of possible adverse side effects. They are considering a bill requiring the Federal Trade Commission to approve promotion material.

In the same bill, Kefauver would require a company with a new drug to license other producers, thereby preventing patent monopolies.

- **Administration's Stand**—The Administration, too, has favored tighter regulation of the industry. Health-Education-Welfare Secy. Arthur S. Flemming has sponsored bills to license antibiotics, provide authority to inspect files and facilities of drug companies instead

of just the finished product, require that records be kept of clinical experience with new drugs so that adverse reactions will be publicized, and bring consulting laboratories under inspection.

- **Fewer Fireworks**—These latest sessions of hearings on antibiotics did not produce the fireworks that were touched off during the early hearings.

In antibiotics, Kefauver noted that prices of broad spectrum drugs held steady from 1951-60, while prices of penicillin and streptomycin, unprotected by patents, were dropping. (Prices on broad spectrum antibiotics were cut 15% a month before the hearings.)

- **Industry's Position**—American Cyanamid answered that only keen competition has kept antibiotic prices steady for nine years while labor costs shot up 90% and equipment costs 40%-50%. Pres. W. G. Malcolm said the company sets a profit goal of 15% on sales after taxes and considers this a moderate margin for a company that has to keep new products pouring out of the laboratory to stay alive. Kefauver regards such a profit margin—common among drug companies but three times the average for all industry—as too high inasmuch as it already takes research costs into account.

One of the big antibiotic producers, Bristol Laboratories Div. of Bristol-Myers Co., shows a much more modest profit margin, 8.4%, although it controls 36% of the market on a major antibiotic, tetracycline.

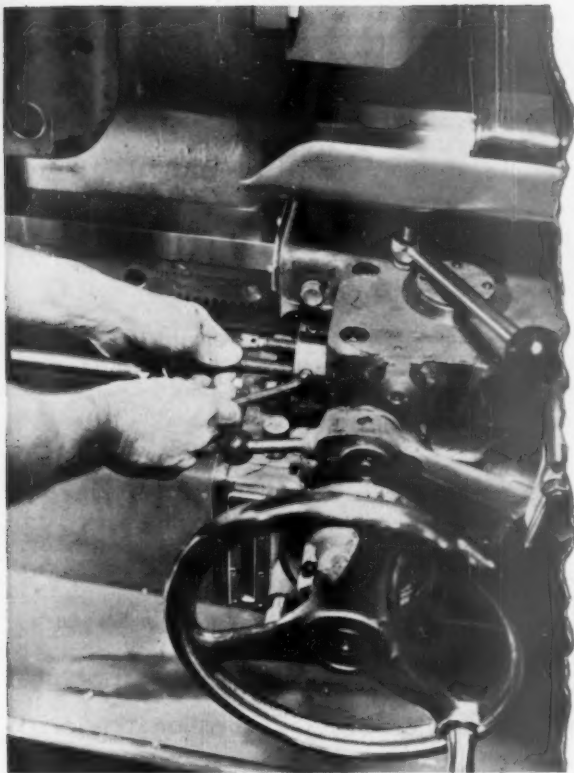
But the committee's economist, John Blair, alleged that Bristol produces tetracycline for \$5.03 per 100 tablets, while the druggist pays \$30.60. Bristol Pres. Philip I. Bowman countered that this considered only production costs, not research or promotion. He estimated the markup after all costs at \$1.20 per 100 instead of the \$25.57 Blair claimed.

Eli Lilly & Co. told the committee that although antibiotic prices have not been reduced in the past 10 years, profit on sales has averaged only 10.5%, less than the average return on all Lilly products.

Sen. Kefauver charged that Parke, Davis & Co., with a 16% profit rate on sales after taxes, should have been able to lower prices on chloromycetin, which have remained the same for 10 years. Parke, Davis Pres. Harry J. Loynd replied that higher costs made it impossible to reduce prices.

- **Overseas Competition**—Kefauver displayed tables showing "amazing similarity" of antibiotic prices not only in the U.S. but also abroad. In Australia, he said, four American companies sell for an identical price; in Italy, 16 companies sell for the same price.

Industry witnesses replied this only showed how sharp competition is.



2½ HOURS



6 MINUTES

The miracle in modern machine tool economics

These two pictures tell the story of a sudden and dramatic revolution in production economics — a story that ranked high in importance at the recent Machine Tool Exposition in Chicago.

The hands in the picture at the left are tooling a high-speed metalworking machine for a production run of a few parts. The tool setting on this more or less typical operation involved 2½ hours of handwork.

The hands at right are doing the same job in 6 minutes . . . by the numerical tape control process.

With something like 80 per cent of all metalworking operations in U.S. industry involving production runs of fewer than 25 pieces, no cost-conscious manufacturing management can afford to ignore the economic implications of this major machine tool development. If you missed the Jones & Lamson exhibit at the exposition, write for full technical information.

No other machine tool builder in the world can equal Jones & Lamson's century-long experience in reducing costs and increasing profitability with the most advanced metal turning, grinding and inspection equipment.

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In Business

. . .

Coca-Cola, Minute Maid on Brink Of Announcing \$60-Million Merger Plan

Coca-Cola Co., the largest soft drink producer, and Minute Maid Corp., top producer of frozen concentrates, are expected to announce a proposed merger next week. Directors of each board will recommend—barring a last-minute hitch—a merger on the basis of 1 share of Coca-Cola for 2.2 shares of Minute Maid. The merger represents a \$60-million deal, at current stock prices.

Entry into citrus juices will mark Coca-Cola's first departure from the soft drink business in 75 years.

The merger offers advantages all around. Coca-Cola has a strong cash position, while Minute Maid needs cash but has good leverage on its debt. For Minute Maid, there's the high price earnings ratio at which Coca-Cola shares sell, compared with Minute Maid's ratio of less than 10-to-1—the result of past instability of earnings.

And Coca-Cola, whose growth has been steady but not spectacular, will be able to buy Minute Maid's earnings comparatively cheaply.

. . .

Administration Unleashes \$136-Million In Congressional Defense Budget Boosts

The Administration has told the Pentagon it can spend another \$136-million of the funds added by Congress to the military budget, thus giving another boost to the rising rate of defense contracting (BW—Aug. 13 '60, p. 36).

The new money will be mainly earmarked for development of alternative components for Lockheed's Samos reconnaissance satellite, development of the Polaris A-3 missile (the 2,500-mile model), and construction of Army reserve training facilities.

The Administration is still sitting on something less than \$500-million in Congressional additions, but within a few weeks the Pentagon plans to release an additional \$25-million.

. . .

A. B. Dick Signs New Agreement Reanimating 1948 Antitrust Strictures

A. B. Dick Co., a major producer of duplicating machines and supplies, has signed a new agreement that puts life into a 1948 antitrust decree against the company.

The old case involved charges that Dick was trying to monopolize the stencil duplicating industry. Last July, the Justice Dept. went back to court charging that beginning in 1952 the company had been violating the terms of the 1948 decree.

The new consent decree enjoins Dick from acquiring

stock or assets of competitors at least until 1968. The company agrees to give dealers 90 days' notice of franchise cancellation, instead of 30, and to sell to distributors whose contracts have been canceled if they still want to handle the Dick line.

The antitrusters also say they will prosecute a companion criminal case accusing Dick of violating the 1948 decree.

. . .

Eisenhower O.K.'s Plan to Conserve Helium Wasted in Gas Production

Pres. Eisenhower this week approved a 25-year, \$255-million helium production program calling for up to a dozen helium extraction plants to be built along natural gas pipelines. Helium, valuable in missile and space work, is now being wasted in natural gas production.

The program hopes that private industry will build the extraction plants, and sell the gas to the government for stockpiling. Congress is to set, each year, the amount of money that the Interior Dept. can borrow from the Treasury to pay for the gas. If private business isn't interested, the Interior Dept. can run the program itself.

. . .

FCC Examiner Urges Revocation Of License on Miami's Channel 7

A special examiner for the Federal Communications Commission this week recommended revocation of the license of Biscayne Television Corp., which operates Channel 7 in Miami. The commission is expected to follow through.

The station was one of those involved in the Congressional investigations of influencing peddling that forced the resignation of Commissioner Richard A. Mack.

. . .

Business Briefs

The state Public Utility Commission has ordered Pennsylvania Bell Telephone Co. to cut its rates by Oct. 7 or face "formal proceedings"—including public hearings. PUC says Bell's intrastate earnings are 6.2%; in 1956 the ceiling was set at 5.9%. Bell denied its rates are too high but deferred decision on compliance.

Three makers of shampoos for rugs and upholstery have been accused of misrepresenting their products by the Federal Trade Commission. Separate complaints named Bissell, Inc., of Grand Rapids; Glamorene, Inc., of Clifton, N. J.; E. R. Wagner Mfg. Co. of Milwaukee and its subsidiary, Glamur Products, Inc., of Syracuse.

Pioneers, Inc., of Oakland, Calif., and its president, Jess M. Ritchie, have agreed to an FTC order against advertising the company's controversial AD-X2 battery additive as being approved or tested by the commission or the government. The consent decree does not constitute an admission of a violation.

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THE ONE TO WATCH FOR NEW DEVELOPMENTS

WASHINGTON OUTLOOK

WASHINGTON
BUREAU
SEPT. 17, 1960



Election optimism is on the rise in both camps. As the campaign gets rolling, both sides see justification for their attitudes. What it means at this point is that neither party has it made, that each sees strong reason to hope it can swing large masses of voters during the next seven critical weeks.

On balance, the Republicans still appear jauntier than the Democrats.

Vice-Pres. Richard Nixon fights against a bad case of complacency, so strong is the sense of optimism inside the GOP. In private, his staff concedes that things look rosy indeed—"almost too good to be really true," as one of them puts it.

However, Sen. John F. Kennedy begins to draw big crowds. The August session of Congress was a harrowing experience for him. Kennedy left Washington disappointed, frustrated, gloomy, and angry at the conservative elements in his own party. Subsequent events on the campaign trail—particularly the large and enthusiastic crowds he found in Texas this week—seem to have revived him.

Note some adjustments each nominee is making in the approach to some of the issues. There probably will be more in the weeks ahead.

Kennedy on taxes. Subtly, he is toning down his well-advertised promise that, if he thought it necessary, he would not hesitate to call for higher taxes. Kennedy is not abandoning the idea, but he is taking pains to say he expects no such situation to arise.

Nixon on spending. In a bid for support in the power- and water-conscious Northwest, he pledges more than the GOP platform implies and more than Pres. Eisenhower has advocated for public works.

Nixon keeps a cautious eye on two potential trouble spots.

One is the state of business. Top Administration advisers are telling Nixon that current softness is misleading. Their advice goes like this: Businessmen no longer fear inflation and therefore can adhere to a policy of close buying for inventory. This creates, so the argument goes, a statistical aberration that conceals underlying robustness in the economy. Probably because of his immense personal stake, Nixon is clearly much more nervous about business than is the Administration.

The other is the religious issue. Nixon fears that continued emphasis on Kennedy's Roman Catholicism will do heavy damage to Republicans in November. The reasoning: It may impel even Republican Catholics in the North and East to vote Democratic and, at the same time, produce a heavy sympathy vote for Kennedy in other regions where anti-Catholicism is raging now in its most virulent forms.

The religious issue may diminish, but it isn't likely to go away. Kennedy this week met questions about his faith, and its impact upon public affairs, in blunt fashion. He intends to continue. Much of the new sense of better cheer among Democrats stems from a feeling that he does this quite effectively.

A major test case on Negro civil rights in the South was filed this week by the Justice Dept. in Tennessee. The objective is to determine in federal court the effectiveness of the 1957 Civil Rights Act.

Economic pressure to keep Negroes from voting—or, more precisely,

WASHINGTON OUTLOOK (Continued)

WASHINGTON
BUREAU
SEPT. 17, 1960

from attempting to register to vote—is charged against two banks and 27 individuals in Haywood County in western Tennessee. The bill of particulars alleges violation of the 1957 act by such means as severing of share crop or tenant farm arrangements, refusal to sell goods to Negroes, rejection of bank loan applications by Negroes.

The timing is significant, in the midst of a Presidential campaign. It appears to reinforce the Southern moderate view that the time is passing when there will be bargaining on civil rights for political gain, either real or imaginary.

—●—

Another dispute between Nixon and Agriculture Secy. Benson broke out inside the White House this week. It involved a bill, passed in the dying hours of Congress, to raise federal support prices for dried milk, cheese, and butterfat.

Benson asked for a veto, arguing it would encourage unneeded production, probably lead to artificial market price rises that would discourage public consumption, and thereby cause a buildup in government-held stocks of these commodities.

Nixon wanted the President to approve the bill. His campaign manager, Leonard W. Hall, spent a lot of time at the White House arguing for its approval. Nixon and Hall feared a veto would give Democrats a chance to fan a new round of "hate Benson" anti-GOP sentiment.

As of midweek, with the time for a decision close at hand, Eisenhower had not given either faction a commitment.

A note on U.S. wheat stocks: The taxpayers' investment in surplus wheat stands this week at \$2.9-billion. That figure likely will go past \$3-billion by next spring. The carryover of wheat—meaning all the surplus from 1960 and earlier harvests—will be a record 1.5-billion bushels by next June. Even the incurable optimists hereabouts have a hard time trying to convince themselves that the next Congress really will muster enough political courage to take the drastic steps needed to force wheat production into closer alignment with demand.

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One effect of the last decade's population growth and movements:

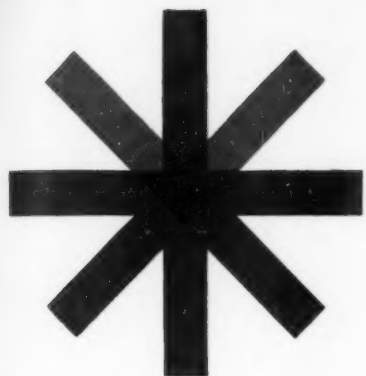
California gains eight seats in the House of Representatives, under tentative calculations based on the 1960 census. New apportionments become effective in 1962. California, which now elects 30 House members, will be entitled to 38 year after next.

Florida is the other big gainer. Its eight-member House delegation will increase by four, to a total of 12. Michigan, Ohio, Maryland, New Jersey, Texas, and Arizona stand to gain one seat apiece.

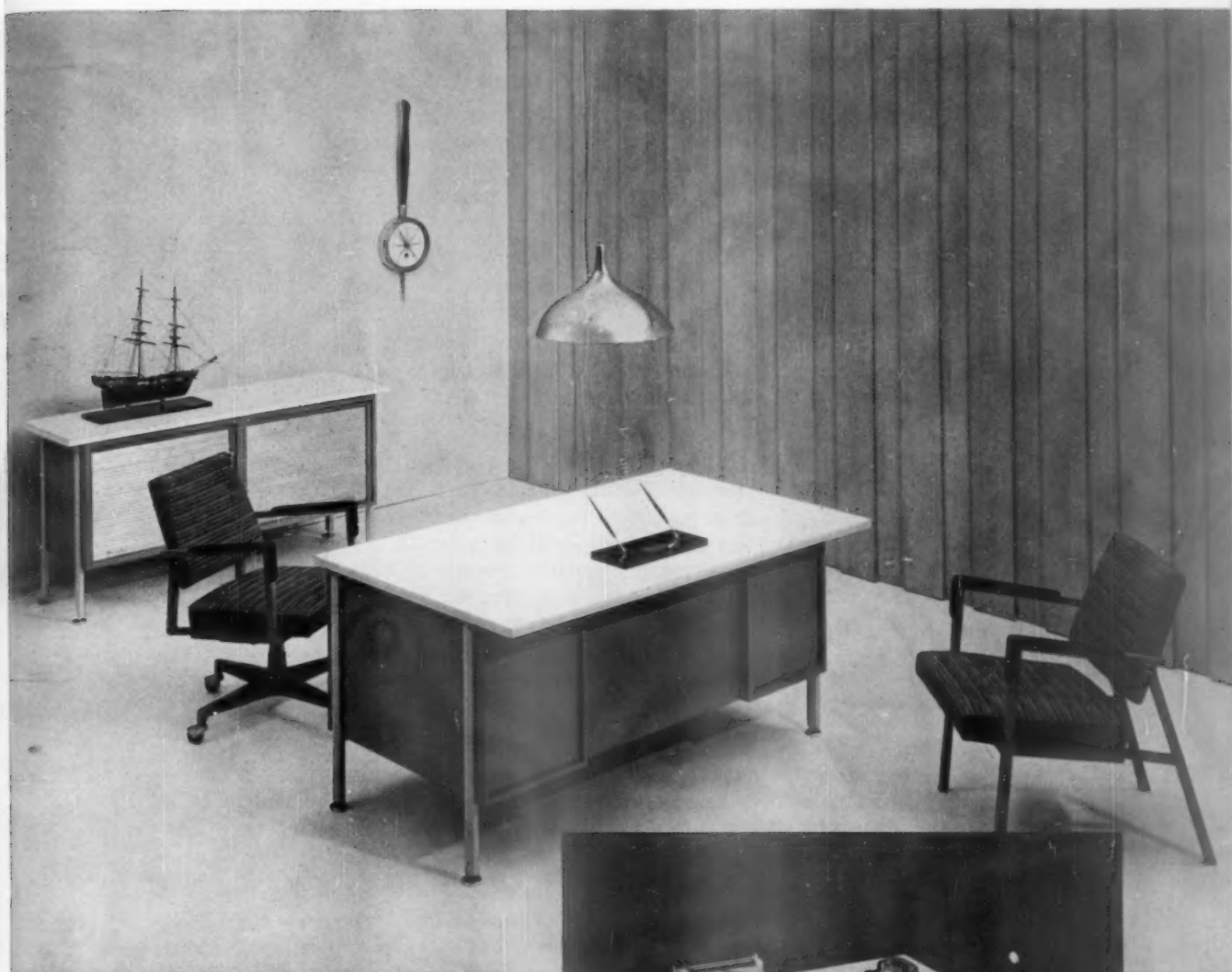
Big losers: New York and Pennsylvania, three each. New York's delegation, still the biggest, will number 40 instead of 43. Pennsylvania, now with 30 members, will get only 27. Other losers: Arkansas and Massachusetts, two apiece; Illinois, Iowa, Kansas, Minnesota, Nebraska, Maine, West Virginia, Kentucky, Mississippi, and North Carolina, one apiece.

Note the important role of the state legislatures in the changes. The Census Bureau figures each state's entitlement. But state legislatures—most of which are being elected this fall—will do the actual redistricting.

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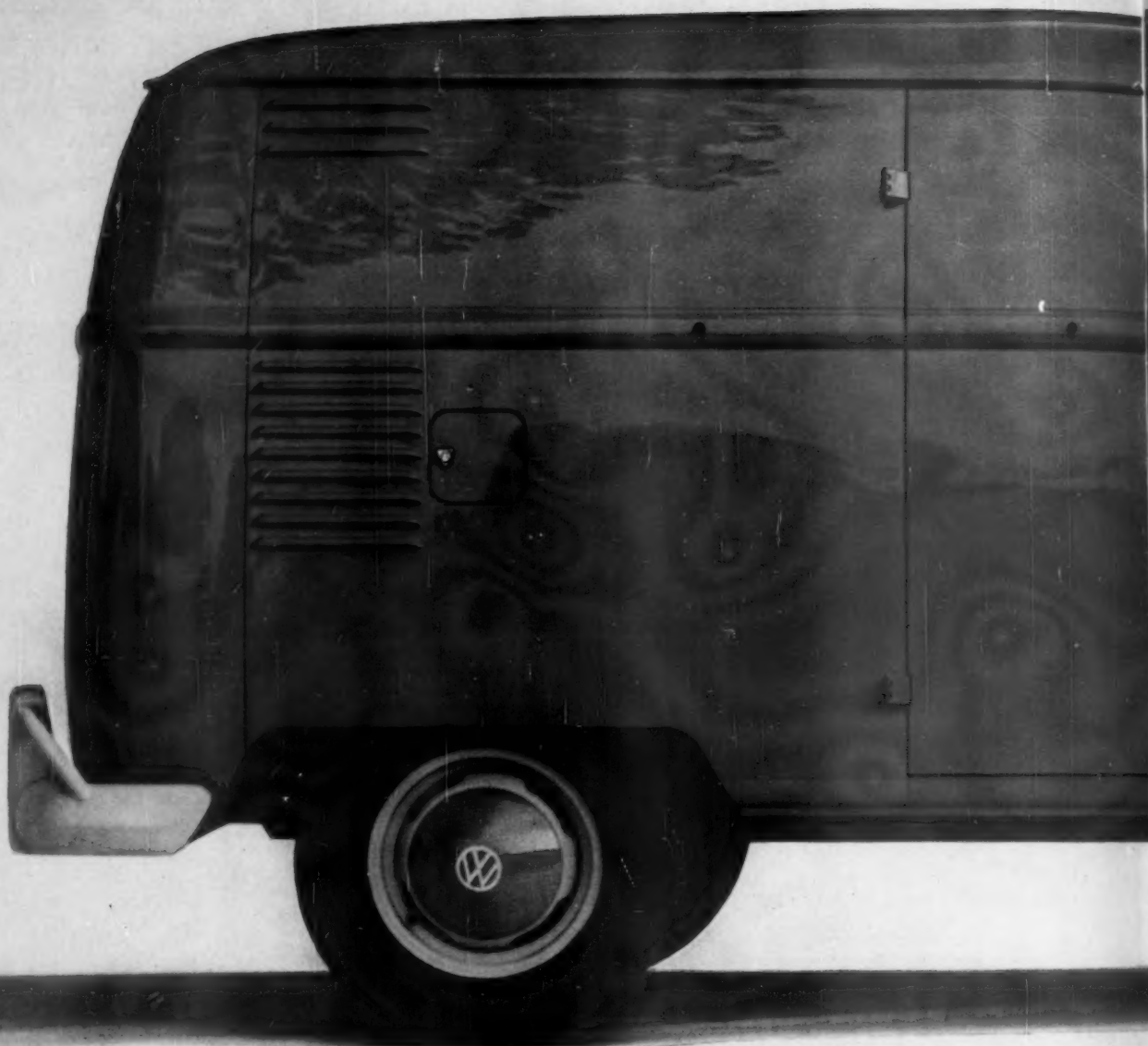


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OF TRUCKS TO COME

in the rear and you have even weight distribution. The load is cradled in the middle. Whether unloaded or fully loaded, a VW is in balance for easy maneuverability and sure-footed traction in mud, ice and snow.

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9 in. longer than a VW Sedan, it can be parked, or loaded and unloaded, where other trucks can't.

You'll find all these built-in advantages only in the VW Truck which, by the way, costs just \$1,895*. Try one. You'll be in good company; for in the past few years Authorized Volkswagen Dealers have delivered 100,000 to businessmen whose trucking needs have been met efficiently through VW Truck design.

*Suggested retail price, East Coast P.O.E.; West Coast prices are higher.

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Film for bread wrappers extruded from Tenite Polyethylene
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To bakers, film of Tenite Polyethylene brings the double economy of lower wrapping costs and fewer returns of "stales." On the wrapping line, bakers find film of Tenite Polyethylene has the proper stiffness and slip needed for efficient use on high-speed packaging machines. At the

heat-sealing end, closures are simplified by the material's broad heat tolerance.

Like other leading suppliers of bread wrappers, Fabricon Products has chosen Tenite Polyethylene as its standard of quality, and vigilantly controls the extruding of "FAB-WRAP" film to develop the full measure of sparkle and clarity offered by this Eastman plastic.

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POLYETHYLENE
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Newcomer Challenges Natural Gas

Transwestern Pipeline Co.'s new line from the Southwest to Southern California goes into operation the end of this month, giving El Paso Natural Gas its first rival. Already the new competition has affected prices and supply contracts.

By the end of September, a new pipeline across the arid Southwest deserts will be pumping some 300-million cu. ft. per day of natural gas into the hungry Southern California market.

It's no news that natural gas is arriving in California; El Paso Natural Gas Co. has been delivering it to the state for a decade and is currently supplying more than 2-billion cu. ft. per day. The novelty is that the new provider is a relative upstart in the natural gas business, Transwestern Pipeline Co.—the first successful challenger of El Paso's dominance as a supplier of out-of-state gas to California.

For all its youth as a company, Transwestern is headed by men seasoned in the ways of the oil and gas industries. Their experience, plus some propitious timing, has made it possible for Transwestern to give the challenge. The rivalry with El Paso has already ruffled the natural gas industry, its prices and supply contracts.

• **Eager Customers**—Within a year or so, Transwestern will be stepping up its throughput to California to 640-million cu. ft. per day to help meet the state's needs, expanding at an estimated 6.4% a year and expected to reach 6-billion cu. ft. per day by 1966. Twenty years ago, California was self-sufficient in natural gas, but a steady decline in reserves and in new discoveries has made it utterly dependent on imports from beyond its borders—at a time when it has been nursing one of the lustiest appetites for natural gas anywhere.

Transwestern has not been the only pipeline company with plans to satisfy that appetite. Probably the most serious threat to El Paso's position came from Pacific Northwest Pipeline Corp., built by Houston's Ray Fish to haul gas both from the San Juan Basin of New Mexico and from Canada, chiefly for marketing in Oregon and Washington. PNW proposed eventually to extend its system down the West Coast into California.

However, in 1957, Paul Kayser, head of El Paso, concluded several months of wheeling and dealing with Fish by buying PNW's assets—at an impressive profit to Fish—and merging the two networks (BW—Jan. 26 '57, p76). The acquisition was challenged soon after by the

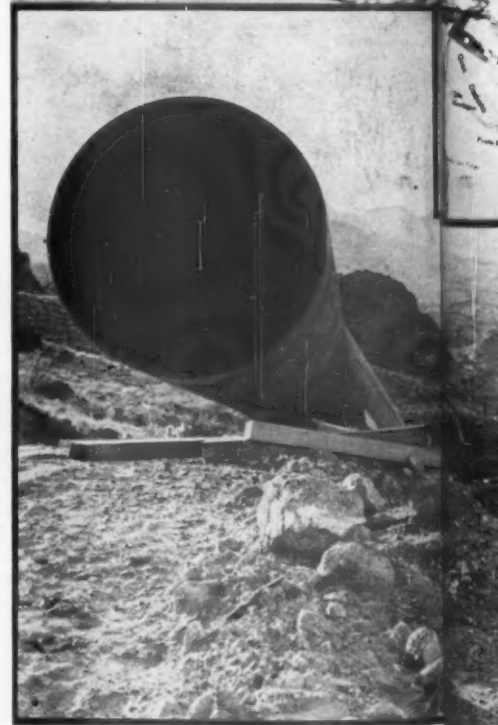
Justice Dept.'s antitrusters, on the ground that it tended to lessen competition, but the suit has not yet come to trial. Meantime, the Federal Power Commission has given its blessing to the deal—though this ruling faces a court test, too, in an appeal brought by the State of California and its Public Utilities Commission. While the lawyers argue, the merger remains an accomplished fact.

In the opinion of some industry observers, however, the antitrust action at least indirectly may have contributed to Transwestern's success in building a pipeline to California practically parallel to El Paso's. In any case, Kayser never actually opposed construction of the rival facilities. Another factor on Transwestern's side was the attitude of the FPC and the California PUC: Both agencies have favored introducing a second source of gas to the state.

• **Pending Projects**—Since Transwestern came into being, two other new systems for delivering natural gas to California have been proposed—one of them by El Paso itself in conjunction with Colorado Interstate Gas Co. The two companies want to lay a line from Rock Springs, Wyo., to the California border, where they would sell an initial 470-million cu. ft. per day to the Southern California Gas Co. and Southern Counties Gas Co. of California, both subsidiaries of Pacific Lighting Corp. The customers would take an eventual 700-million cu. ft. per day. An FPC examiner has recommended that authorization be given for the project; the commission will hear oral arguments on the matter beginning Sept. 27.

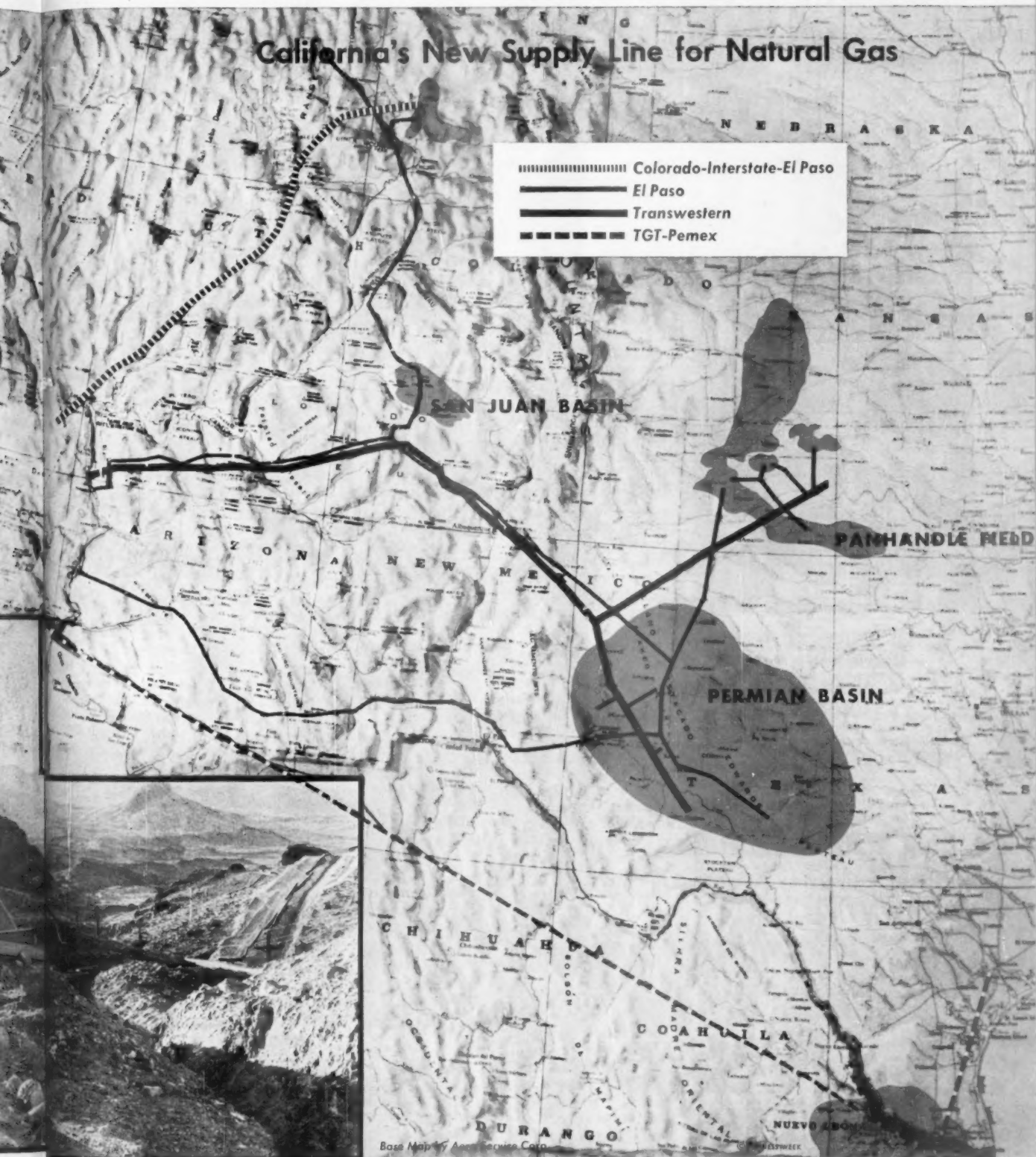
If the proposal becomes reality, El Paso will, in effect, be in competition with itself as well as with Transwestern.

Another pending project—this one requiring a treaty between the U.S. and Mexico—calls for construction of a pipeline to carry gas from Southern Texas and perhaps Louisiana to California along a route running south of the Mexican border (BW—Jul. 23 '60, p40). Along the way, Mexican gas would be added to the system. The co-sponsors, Tennessee Gas Transmission Co. and Pemex, the Mexican national oil monopoly, propose to sell Southern California Edison 250-million cu. ft. per



al Gas Giant on West Coast

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day at first, 410-million cu. ft. per day eventually.

All told, the new projects would add more than 2-billion cu. ft. per day to the California gas supply in five years or so.

On the map, Transwestern's 1,809-mile line looks like a huge "Y"—one arm stretching from the Texas-Oklahoma Panhandles, the other from the Permian Basin of Southwest Texas. They converge near Roswell, N. M., into a 30-in. mainline extending 670 miles west to the California border near Needles, where the gas is picked up by Pacific Lighting Gas Supply Co., another subsidiary of Pacific Lighting.

I. An Experienced Team

This \$200-million project was the brainchild of three oil and gas industry pros who sensed opportunity in a conjunction of supply and demand—the bounteous supply of Southwest gas still uncommitted to customers and the keen California demand for the fuel. The trio consists of:

W. K. Warren, 62, multimillionaire board chairman of Warren Petroleum Corp., since 1956 a subsidiary of Gulf Oil Corp. After Warren sold out to Gulf, he took on the job of running both companies' gas properties. He is also a member of Gulf's executive committee and president of the American Natural Gasoline Corp.

J. R. Butler, 52, senior partner in the oil and gas consulting firm of Butler, Miller & Lents in Houston. Butler is an engineer who pioneered in recycling and secondary recovery operations, but he has also been highly successful as an independent in the oil and gas business.

John R. McMillan, 51, executive vice-president of Monterey Oil Co. in Los Angeles.

• **Genesis of a Pipeline**—The idea of building a line to California in competition with El Paso is credited to Warren. His reasoning was that by bargaining with the owners of uncommitted gas reserves, a new pipeline company might be able to tie up enough of a supply to go into business. He first talked with Butler about the proposal in October, 1956. McMillan, approached by Warren and Butler as a third partner, was interested because Monterey wanted to branch from its concentration on oil to the richer profit potential in gas.

In late 1957, the three organized Transwestern "to underwrite the investigation of a gas supply for the Southern California market." Each of the founders subscribed to one-third of the original stock.

As president, they hired 59-year-old Mills Cox, a veteran of 35 years in the business. He had been vice-president in

charge of gas procurement for Texas Eastern Transmission Corp., and he was known as a top man in dealing for gas reserves.

II. Jockeying for Gas

Before a company can win from the FPC a certificate of convenience and necessity for a new pipeline, it must prove that:

- It has enough gas reserves committed to supply its customers for at least 20 years.
- It has signed up customers for a specified amount of gas for 20 years.
- It has set fair prices for both its gas suppliers and its customers.

To establish itself on the first point, Transwestern began bargaining with owners of gas reserves in the Four Corners area of the San Juan Basin, in the Texas-Oklahoma Panhandles, and in the Permian Basin of Southwest Texas. In the process, it had to vie with El Paso and other pipeline outfits and with bidders proposing to use the gas inside Texas. In fact, El Paso's only significant opposition to Transwestern came in the rivalry for the uncommitted reserves.

• **Prices Climb**—In the Four Corners area, this rivalry pushed prices so high that Transwestern pulled out without buying. In the Permian Basin, however, Transwestern outbid the others.

The Permian Basin reserves included 1.5-trillion cu. ft. in Gulf's Puckett and Worsham fields. The reserves are immense, but because their gas contains 28% carbon dioxide that has to be removed in an expensive plant, Transwestern made a deal to buy the gas for 12¢ per thousand cu. ft.—slightly more than half what it paid for some other reserves.

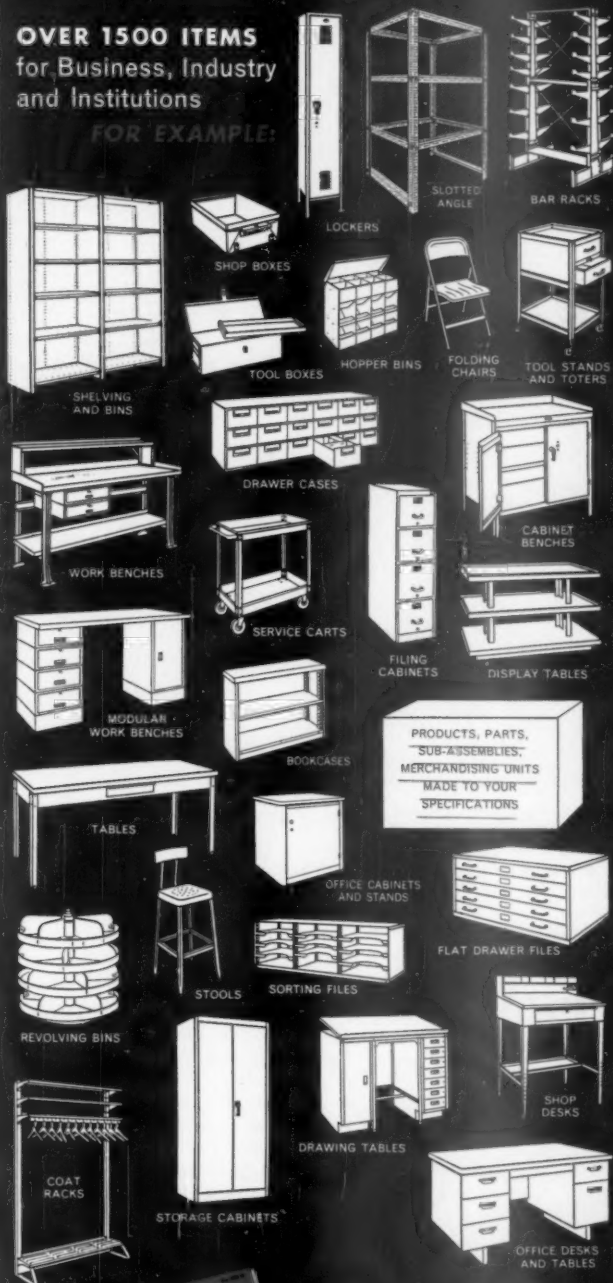
In the transaction with Gulf, Warren was, in effect, doing business with himself—as a founder of Transwestern and an officer of Gulf. But, he says, "there was no sentiment involved, nor did Gulf give Transwestern any breaks in the dealings. Transwestern was simply willing to bid high enough for Gulf to be willing to trade." The contract with Gulf gave Transwestern half the reserves it needed.

• **Richardson's Help**—By this time, Cox had become active in the negotiations. He persuaded the late Sid Richardson, a long-time friend, to commit his huge Richardson-Bass reserves in the Permian Basin to Transwestern.

In the Panhandle country, Transwestern was bidding against pipeline companies interested in moving gas to the Chicago area. The competition was such that in some instances Transwestern had to pay as much as 23¢ per thousand cu. ft.—2¢ to 6¢ above what had been the going rates in the area, though still several cents below some

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only a portion of the destroyed structure with the insurance proceeds, leaving them with facilities far from adequate. Had replacement cost insurance been carried, this unfortunate situation could have been avoided.

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Louisiana deals. The Panhandle contracts upped Transwestern's total commitments to 3-trillion cu. ft.—its quota for 20 years into the future.

III. Up Go the Prices

Over the years, the price of natural gas reserves has gradually been climbing. Two decades or so ago, an oilman was happy to get 5¢ per thousand cu. ft. for gas he considered almost a nuisance. But demand has been burgeoning, thanks partly to the development of pipeline networks. At the same time, it has become more and more expensive to drill for gas, and the drillers are finding fewer important new reserves. As a result, almost every new long-term contract is negotiated at a higher price than its predecessor.

As Transwestern began signing supply contracts, El Paso began voicing objections to the prices. El Paso said, for one thing, that Transwestern's higher prices to producers could force it to raise the prices it was paying, under "most favored nation" clauses in many of its contracts. It contended also that the richer diet for gas producers might force it to charge customers more than it wanted to.

El Paso had been selling its gas for an average of approximately 38¢ per thousand cu. ft., but Transwestern figured that to make 6% to 6½% on its investment it would have to collect about 45¢ at the initial low throughput. Pacific Lighting Gas Supply agreed to the 45¢ price with a stipulation that the price would be reduced to match El Paso when deliveries reached the 640-million cu. ft. per day capacity.

• **FPC Says No**—After Transwestern had completed some 80 separate supply contracts and its deal with the California customer, FPC vetoed the price structure at both ends. It urged reductions ranging from 1¢ to 6¢ in the supply contracts and ordered PLGS' price cut from 45¢ to 41.8¢. It figured Transwestern's return at this rate would be 6¼%.

This meant Transwestern practically had to start all over again to insure its gas supply. Renegotiating the contracts took all the company's skill. Warren huddled with Gulf and Cox with Richardson, and they managed to persuade these two important suppliers that no better deal could be approved. With Gulf and Richardson reconciled to the lower prices, others gradually fell into line, too.

IV. Money Came Easily

To make their proposal reality, Transwestern's founders also needed \$200-million in financing. But Warren, who did most of the work in this de-



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partment, says this was "the easiest job we had to do in the whole operation." Chiefly, it was because of his long-time association with some important banks and with the "dean of pipeline financing," Harry C. Hagerty, vice-chairman of Metropolitan Life Insurance Co.

The first step in raising the money was for Warren as an individual, Butler and associates, and Monterey Oil to put up the original capital, plus \$10-million to show the financial community they meant business. Later, Warren assigned his individual interest to Warren Petroleum, but he still has a considerable stake in the venture through his substantial ownership of Gulf stock and through subsequent purchases of Transwestern shares in the open market.

The next big money was \$75-million from the First National Bank of Chicago, Mellon National Bank of Pittsburgh, and New York's Chase Manhattan Bank, First National City Bank, and J. P. Morgan & Co., now Morgan Guaranty Trust Co. Borrowing from these institutions was no strain for Warren. He gets along well with banks, partly because during 38 years as head of Warren Petroleum he borrowed more than \$1-billion, partly because in 1939-41, when money was offered as low as 1½%, he insisted on paying the banks 2½%.

• **Gamble**—When Transwestern got the \$75-million, it still had no assurance that FPC would approve its plans. But with last year's steel strike impending, it gambled the money to buy pipe for delivery before the walkout. Says Cox: "Transwestern could have been in the pipe business for a hell of a long time if our line hadn't gone through." But the line did go through, and the company avoided a long delay in construction.

On the long-term side, Transwestern wanted \$100-million in mortgage money. After some preliminary negotiating, Metropolitan's Hagerty bid 5½% for the entire amount—and stuck by the figure even though other lenders later bid slightly higher.

The final step was to issue \$61-million in units consisting of five shares of common stock with each \$100 debentures. The package, underwritten principally by Lehman Bros. and Merrill Lynch, Pierce, Fenner & Smith, Inc., was offered at \$153.75, but it is now selling for \$156 bid. With the proceeds from this issue, Transwestern first paid off its bank debt and then arranged a five-year loan of \$28-million from the original five banks, plus Bankers Trust Co. and Chemical Bank New York Trust Co.

In all the negotiations, Warren says he didn't use Gulf's credit. But, he adds, "obviously the Gulf name didn't hurt us any either." **END**

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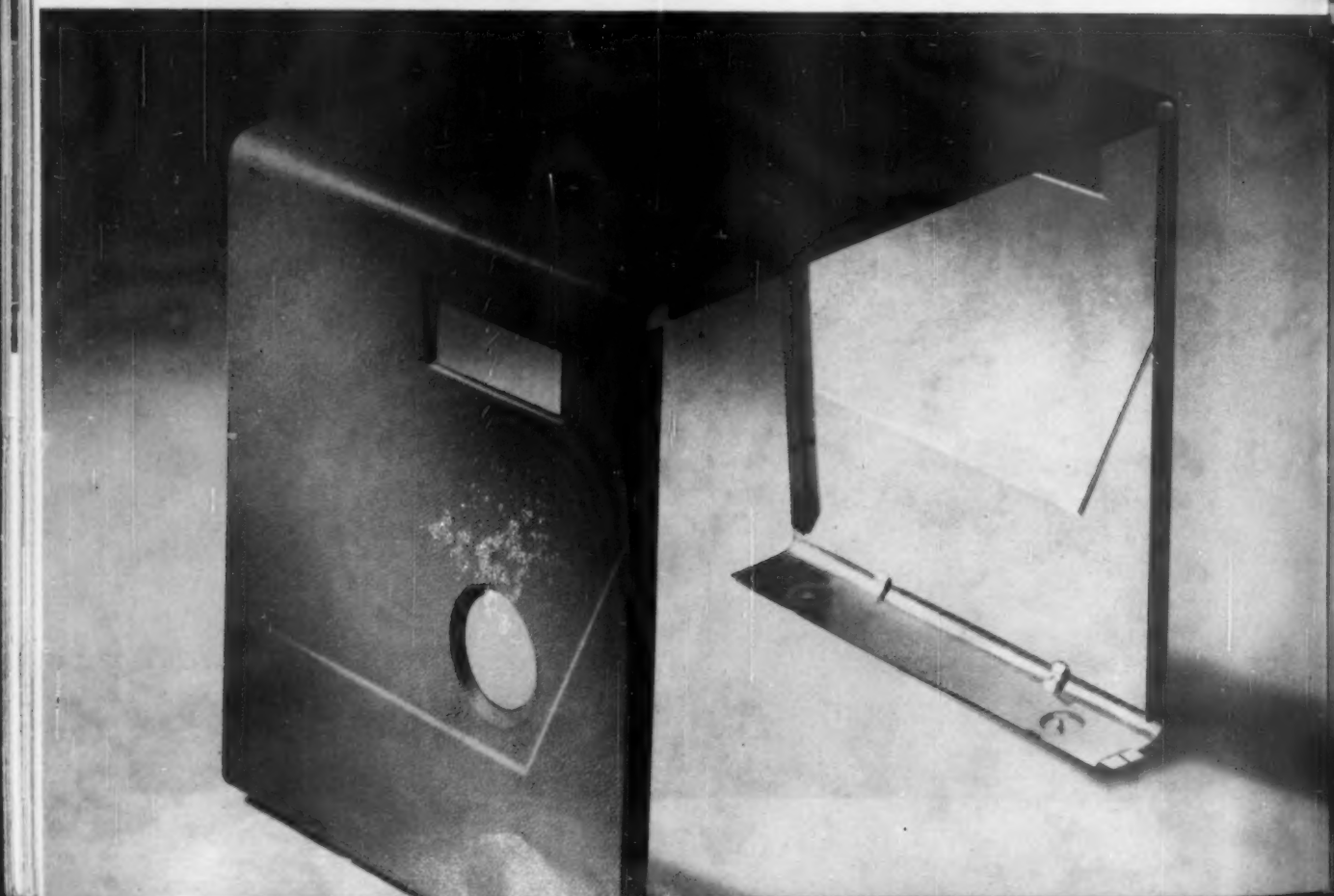
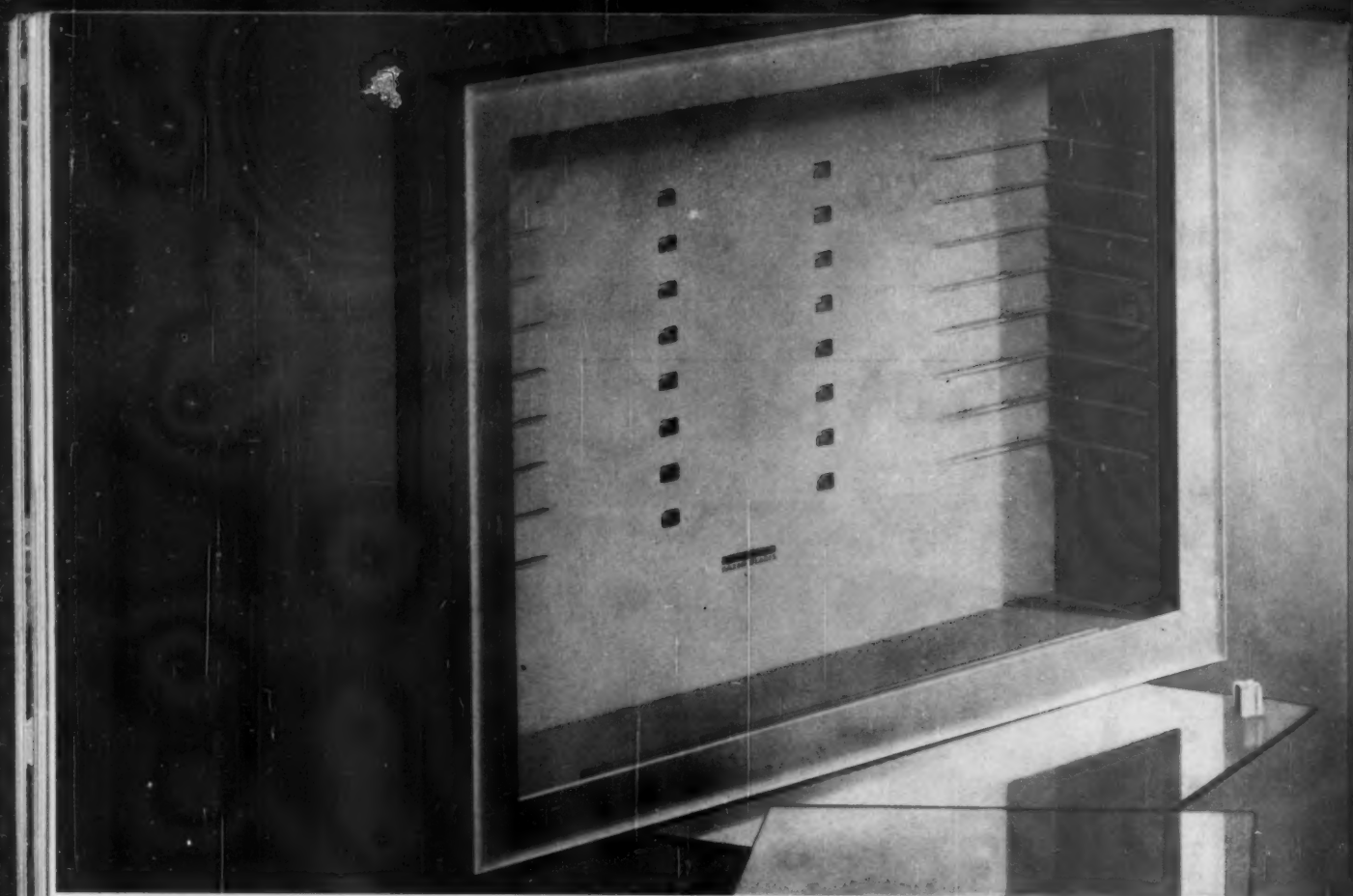
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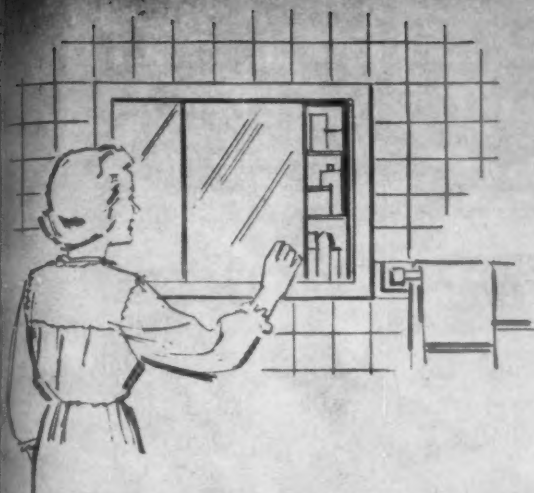
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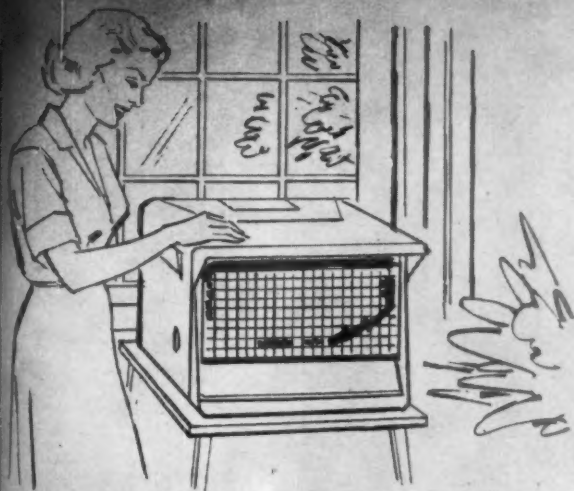
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Big Surge in Synthetic Rubber

Half a dozen companies are building and planning plants that will turn out 200,000 tons of "natural synthetics" a year.

Late this month in Kuala Lumpur, the capital of Malaya, some 200 businessmen and scientists will meet to talk about the future for natural rubber—about increasing its production, lowering its price, improving its quality.

Early last month, in New York, several other businessmen met in an office on Madison Avenue to set their signatures to plans for a new plant that will produce 30,000 tons a year of polybutadiene or polyisoprene—the former a synthetic compound that is close to natural rubber, the latter a synthetic that has precisely the same molecular structure as natural rubber.

• **New Expansion Surge**—The two events, half a world apart, are closely related. That meeting in Malaya is a response to a sudden new surge of investment in the U.S. synthetic rubber industry.

In the last six months, half a dozen rubber and chemical manufacturers in the U.S. have announced plans for big new plants to produce polyisoprene and polybutadiene (both known more briefly as stereo specific rubber). By the end of next year, almost all these new plants will be on stream. They will give the U.S. capacity for at least 200,000 tons a year of the stereo specifics. Investment of the six companies in these new plants will probably be between \$80-million and \$100-million. At least three other producers are also likely to set up plants for stereo specifics.

• **Big Mouthful**—All this will give the

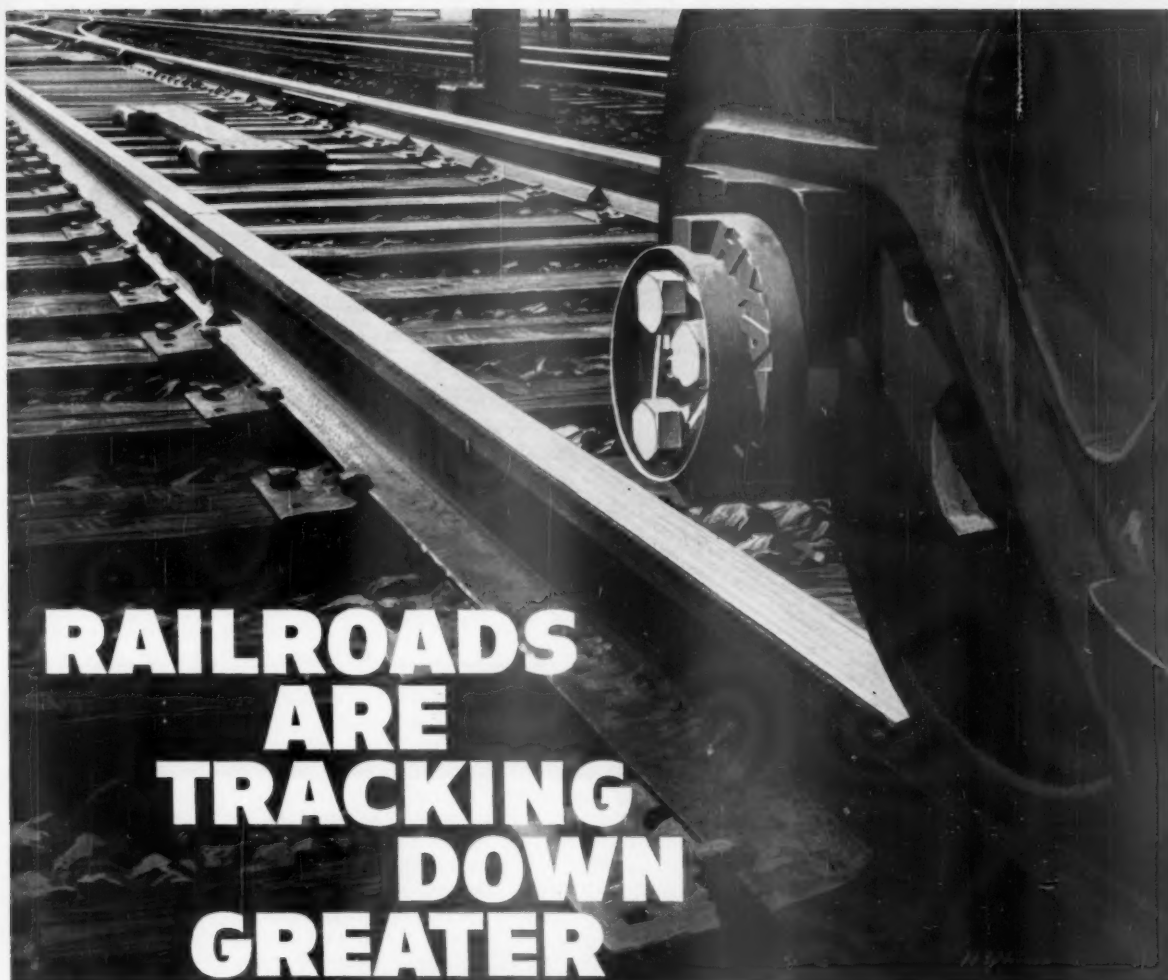
country's rubber manufacturers a substantial chunk of extra capacity to swallow in one quick gulp. The country consumed about 1.6-million tons of rubber last year—two-thirds of it synthetic and one-third of it natural. The capacity of the new plants already being built is equivalent to about one-third of all the natural rubber that the U.S. now uses.

Most of the synthetic rubber—the product of the plants built by the government during World War II and sold to private industry in the early 1950s—goes into automobile tires. This kind of synthetic is what used to be called GR-S (for government rubber—synthetic) and is now labeled SBR (for styrene-butadiene rubber).

It's not a complete replacement for natural rubber because it lacks the resilience and the resistance to heat and



PLANT being built at Orange, Tex., will turn out 30,000 tons of polybutadiene rubber a year for Firestone when it opens next year.



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abrasion that natural rubber has. But in dozens of uses, and particularly in automobile tires, it's a worthy substitute.

• **Other Rubbers**—Three other types of synthetic rubber grew out of the same wartime program. Butyl rubber was reckoned a low-demand specialty product until the last couple of years, when Esso began turning out automobile tires made of butyl. Neoprene rubber is still a specialty product, put chiefly to industrial uses where its resistance to oil and to low temperatures are valuable. N-type rubber is equally specialized; it is used among other things for lining airplane fuel tanks because gasoline won't rot it.

None of these three is produced at a rate of more than 100,000 tons a year. SBR is the only one of the World War II synthetics to reach anywhere near 1-million tons a year.

• **Tire Market**—Ever since World War II there has been a steady demand for natural rubber, and the greatest part of the demand has come from the makers of heavy-duty tires, who last year used 40% of all the natural rubber imported into the U.S. Until now, there has been no synthetic that could stand up to the harsh abrasion and high heat that tear at tires on trucks, buses, and other heavy vehicles. Natural rubber's price has gyrated wildly for the last five years—from nearly 50¢ a lb. late in 1955, down to 23½¢ a lb. in mid-1958, back up to 49½¢ a lb. last November, and down again to near 40¢ a lb. now.

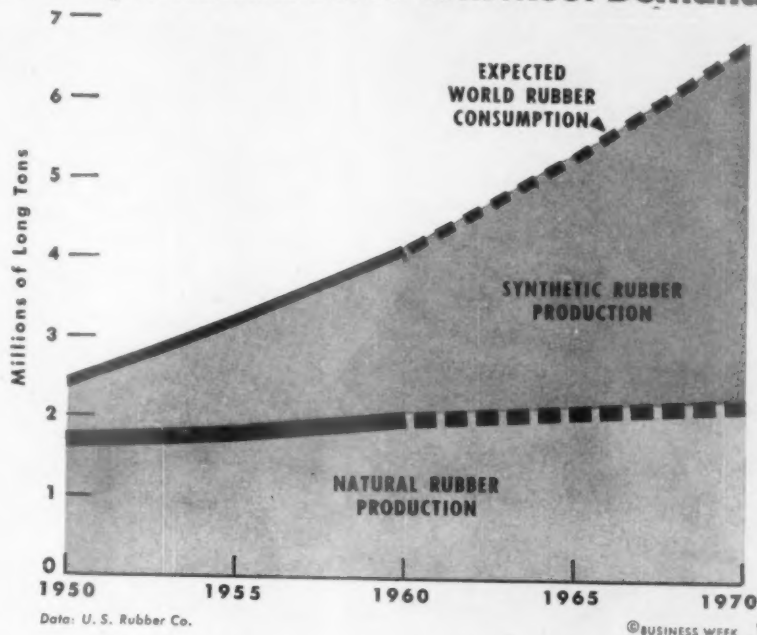
Both of the two new synthetics are destined primarily for this heavy-duty market. It is a market currently worth about \$700-million a year to the tire producers, and the best estimates are that it will grow slowly but steadily through the next decade. The new synthetics will start cutting into this market at a price of 35¢ a lb.

Neither of the stereo specifics is intended as a rapid and total replacement for natural rubber; heavy-duty tire builders aren't likely, for a start at least, to make their products solely from one or other of the new synthetics. They will use the stereo specifics on those surfaces for which they are best suited—on tire treads in particular. What happens later depends heavily on prices—both of natural rubber and of the stereo specifics.

I. The Growing Producers

Almost all of the six companies now committed to new plants for the stereo specific synthetics will produce polybutadiene, the synthetic that is not a precise substitute for natural rubber. Though polybutadiene lacks some of the qualities of natural rubber—resilience, for instance—it has even more resistance to heat and abrasion than

How Synthetic Rubber Will Meet Demand



the rubber that comes from trees or from polyisoprene production plants. So it's getting a lot of attention.

Committed so far are:

Shell Chemical Co., which for the last 18 months has been turning out polyisoprene at a rate of about five tons a day at its plant in Torrance, Calif., will have a new 20,000-tons-a-year plant ready there for polyisoprene production late this year. Another new plant in Ohio, which will probably have a 40,000-tons annual capacity, is likely to be announced soon.

Phillips Petroleum Co. has a 25,000-tons-a-year polybutadiene plant under construction at Borger, Tex., that is expected to be in full production by the end of this year. Phillips has been turning out pilot plant quantities for a year.

Firestone Tire & Rubber Co. is building a 30,000-tons-a-year polybutadiene plant at Orange, Tex., and plans to have it on stream early next year.

American Rubber & Chemical Co.—a combination of 29 companies, with 28 of them sharing a 50% interest and Stauffer Chemical Co., the 29th, holding the other 50%—has started work on a 30,000-tons-a-year polybutadiene plant at Louisville, Ky., and expects to have it in production in the fall of next year.

Goodyear Tire & Rubber Co., which has been saying little about its involvement in this new synthetic rubber business, has started pouring foundations for its polybutadiene plant at Beaumont, Tex., expects it will be completed late next year. Beyond saying that "30,000 tons a year is a little high," it won't state the new plant's capacity.

Goodrich-Gulf Chemical Co., owned half and half by B. F. Goodrich Co. and Gulf Oil Corp., has plans for a 25,000-tons-a-year polybutadiene plant but hasn't yet decided whether to build it at Institute, W. Va., or in Orange County, Tex.

Other new plants are in the offing:

- **U. S. Rubber Co.** is due to announce soon a 1-ton-a-day large-scale pilot plant for polybutadiene at Baton Rouge.

- **General Tire & Rubber Co.** will probably produce one of the new stereo specifics but isn't talking about its plans yet.

- **Texas-U.S.**, a combination of Texaco and U. S. Rubber, may get into the business, too, but there's no firm schedule for this.

The plants now under construction can all be converted easily from production of one stereo specific to another. The processes are almost the same, though the mix that goes into the plants is different. Still, as plans stand, there will be a lot more polybutadiene than polyisoprene around the country by the end of next year.

II. New Kind of Chemistry

The speed with which the companies have pushed these two new synthetics from research and laboratory-scale development to full-scale production is fast even for this lively industry.

The stereo specifics are not easy outgrowths of the SBR synthetics. They are the products of a totally different kind of chemistry, one that requires the use of complex catalysts known as organometallic substances—compounds



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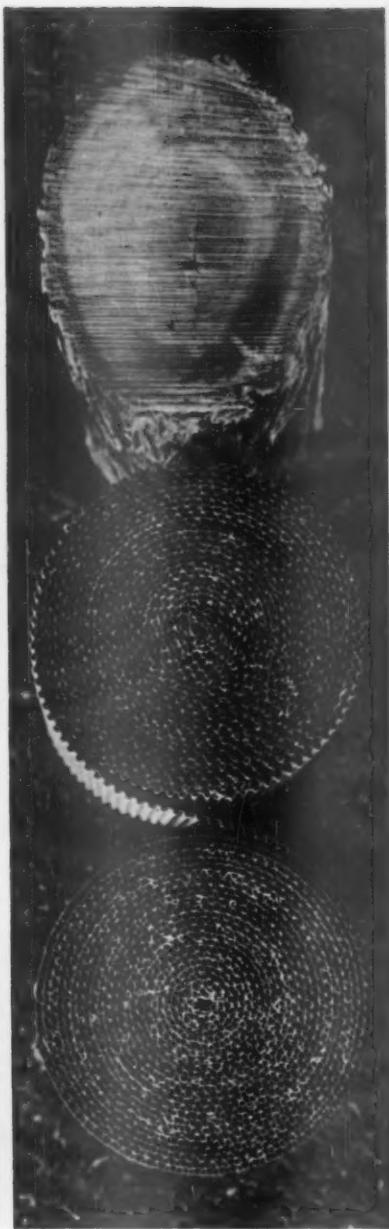
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Certain low-grade woods grow fast, but are commercially worthless. Discover a way to turn them into good, strong pulp—inexpensively—and you add new wealth to the economy. Such a process is now in use. Creative men from Hooker, working with government and paper-industry researchers, helped to develop it. Trash-wood chips, steeped in cold caustic soda, yield up a pulp that makes excellent newsprint and corrugated board.



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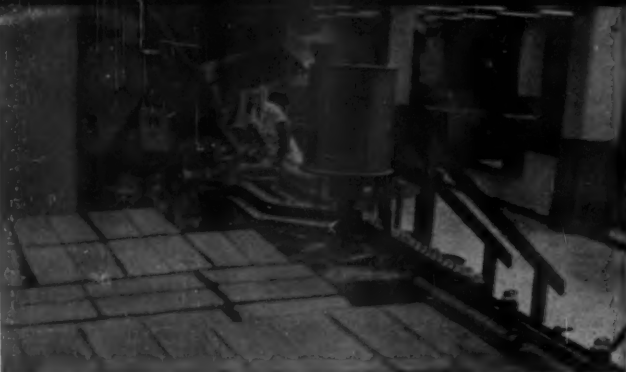
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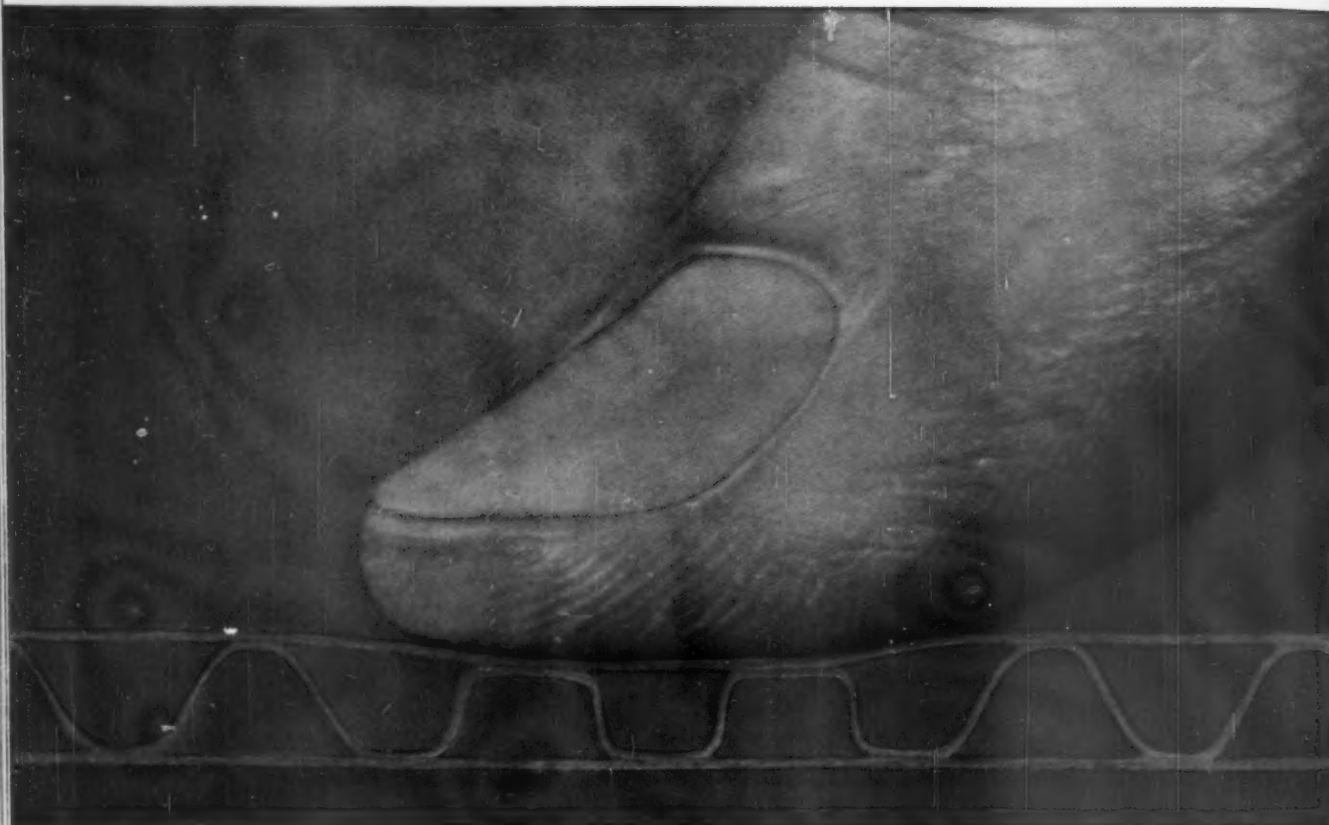


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... the habits of the chemical industry are also partly responsible for the rush to build stereo-specific plants ...

(STORY on page 60)

made up of a hydrocarbon element and a metal, such as titanium tetrachloride or triethyl aluminum.

• **Pioneers in Field**—It was late in 1954 when Goodrich-Gulf announced its development of "synthetic natural" rubber—polyisoprene. Firestone may have come across much the same thing about the same time; it had been working on a government research contract, and it disclosed its process to the whole industry in mid-1955.

Phillips, which had bought one of the World War II synthetic rubber plants from the government, was working along a parallel track at about the same time, and it came up with polybutadiene.

• **Patent Fuss**—Goodrich sought to keep its polyisoprene process to itself but was quickly sued by the Justice Dept., which claimed that Goodrich had developed the process with government research funds. Goodrich fought the suit, but last month the case wound up with a consent decree under which Goodrich-Gulf will license anyone who wants the formula at a maximum royalty of 2½% of sales.

Some of the newcomers who are concentrating on polybutadiene, including American Rubber & Chemical Co., have licenses from Phillips. Goodyear, whose researchers spent years looking for the right process, turns aside all questions about the process it will use, but it is the talk of the industry that Goodyear has a Phillips license.

Both types of stereo specific rubber are brothers of the new plastics, polyethylene and polypropylene. So some of the claims of discovery go back to this side of the family, where the chief names are those of two industrial chemists: Karl Ziegler, a German, and Giulio Natta, an Italian. Some of the U.S. companies, just to be safe, work under licenses from these two scientists.

The whole patent position is chaotic. Eventually, it's expected, a system of cross-licensing agreements will be worked out to bring some patent peace to the industry. But that solution may be years away.

III. Hurry, Hurry, Hurry

Patent chaos is, in part, a result of the rush to get into the business of making the new synthetics.

The causes of the rush are something else again:

Prices have played a big part in helping producers decide when to set up plants for the stereo specifics. When the price of natural rubber doubled from

mid-1958 to late 1959, it was more than enough to spur the rubber manufacturers' plans for polyisoprene and polybutadiene plants.

Prospects of long-term supply have probably been the biggest factor in forcing the stereo specific producers' decisions to build their plants. The industry foresees a sharp shortage of natural rubber in the next decade.

World consumption of rubber, the industry figures, is likely to jump from 4-million tons a year to about 7-million tons a year in the next decade. But in the same time the production of natural rubber—which meets half of today's world demand—isn't likely to increase more than a tiny fraction.

If some of the rubber manufacturers' guesses are correct, there will be even less natural rubber than they forecast. If the two new synthetics do sell for around 35¢ a lb., this will tend to become the ceiling on natural rubber prices. When natural rubber prices are pushed down to that, marginal rubber plantations start going broke.

The big, well-organized rubber estates are in a different position. The best can produce rubber for as little as 12¢ or 13¢ a lb. But there are few of these, and only a small percentage of the world's natural supply comes from them.

The habits of the chemical industry are also partly responsible for the rush to build stereo-specific production plants. Ever since the rubber manufacturers bought the majority of the World War II styrene-butadiene synthetic rubber plants, they have been getting more of the flavor of the chemical industry about them. That flavor is one of hectic research and development, speed in getting new products and processes into full-scale production. Today, like most of the chemical industry, a rubber manufacturer dare not long ignore new developments lest his competitor get the jump on him.

IV. Serendipity at Work

When a major change like this comes to an industry, newcomers usually get a piece of the business. That happened when the government sold its wartime styrene-butadiene rubber plants. Most—but not all—of them went to the rubber manufacturers, and some chemical and oil companies moved into rubber manufacturing.

That has happened again this time. One of the newcomers is Stauffer Chemical, with its half-share in American Rubber & Chemical Co. Behind

Stauffer's move lies a dash of serendipity—the art of recognizing the value of something you have found by accident.

• **Out of Titanium**—About 10 years ago, Stauffer was deeply involved in research on a process for refining titanium metal, the "wonder metal," that seemed at that time the answer to all kinds of high-heat and high-stress problems. It had carried development as far as a pilot plant by early 1957 when the whole titanium business began falling apart (BW—Nov. 16 '57, p176). Stauffer shut down its pilot plant, but about a year later small orders started coming in for a compound produced in the intermediate stages of titanium metal refining—titanium trichloride. At first the orders were for a few ounces, then for a pound, then for 3 lb. and 4 lb. and 10 lb.

Stauffer's chemists followed the orders to their destinations and there found rubber company research staffs using the compound as a catalyst in their laboratory work on polyisoprene and polybutadiene.

• **More Profit**—Gradually it became clear to Stauffer's management that, though the company made a good margin on its sales of the catalyst, there was much more to be made in producing one of the new synthetics. Less than a year ago, they decided it was time to move. And from this comes their half-share in American Rubber & Chemical Co.

V. Picking Up Habits

From newcomers like Stauffer and from technological changes that have made their business so much a chemical operation, the rubber manufacturers have picked up the habits of the chemical industry. And one of the habits of the chemical industry that the rubber manufacturers may have adopted is to rush too far in their plant building, to build capacity far in excess of demand. Each company tends to jockey for a larger share of the market and to build a plant capable of meeting that larger share.

Rushing ahead like this can be reckoned as insurance against the future, against the chance of demand out-running expectations. But it has its dangers, and they are large ones. Technology can make swift advances. Before a new plant is working at full capacity, it can become wholly or partially out of date.

Nobody in the industry, though, is willing to admit to worrying over the possibility that there will be overcapacity. They agree that there's always a chance of this, but they cite projections of worldwide supply and demand indicating there will be a shortage of natural rubber. **END**



CASTRO puffing stogie symbolizes Cuba's dependence on dollars from tobacco, but . . .

Cigar Men Get Jitters Over Cuban Tobacco

U.S. cigar manufacturers, scanning almost daily reports of increasing tension between the U.S. and Cuba and the stepped-up expropriation of U.S.-owned business by Premier Fidel Castro's government, feel like a man with a bankroll in his pocket and a pistol at his back. They fear a sudden shutoff of shipments of choice Havana tobacco, putting a crimp in a booming \$600-million-a-year business.

Though U.S. imports of Cuban leaf are now flowing normally, tobacco has not escaped Castro's attention; his government has already put its hand on tobacco growing and set a time limit for purchase of the crop. As one Tampa cigar man expresses it, "Anything can happen. We could be cut

off tomorrow if Castro decides on it."

The U.S. cigar industry has bought up as much of this year's crop—harvested from about the end of December to July—as it needs. But next year's may be another matter, if Castro decides to embargo U.S.-bound shipments in his diplomatic war with Washington.

Without that fear, the booming industry would have few worries. Last year it produced a record 6.9-billion cigars, for which smokers paid a record \$610-million—and the industry looks for even higher total sales for 1960. But a large part of the industry is heavily dependent on Cuban tobacco, and for it there may be tough going ahead.

• **Mainstay**—The cigar industry in the U.S. has two main bases—at Tampa,

Fla., and eastern Pennsylvania—with a few other manufacturers scattered around the country. Tampa houses about 10 of the largest producers of high-priced pure Havana cigars, those using only Cuban tobacco. These producers depend heavily on Cuba not only for tobacco; they look to the island for craftsmen who rank as the world's finest hand makers of cigars, and who also have the knowhow to make fine cigars by machine.

The Pennsylvania section of the industry produces few clear Havanas, concentrates more on the medium-priced, blended cigars containing both Cuban and domestic leaf. Largest of the 20-odd U.S. cigar manufacturers is Consolidated Cigar Corp., with main offices in New York and annual sales close to \$100-million.

Though the U.S. itself is the world's largest tobacco producer, Cuban leaf has long been a mainstay of the U.S. cigar industry because of its distinctive taste and aroma. About one-fourth of the tobacco used by the U.S. industry comes from Cuba—some 65-million lb. a year. It's used as both outside wrapper and filler in the luxurious clear Havanas and as filler in most medium- and lower-priced brands, where it's blended with domestic or Puerto Rican filler.

• **Signs of Trouble**—The U.S. cigar makers' worry about a possible cutoff of Cuban tobacco stems in large part from two Castro government actions:

• For the first time in history, the Cuban government has set a time limit for the purchase of tobacco. U.S. dealers and tobacco companies were told that after the end of August they wouldn't be able to purchase any more high-quality tobacco this season. The remainder of the crop will revert to the National Agrarian Reform Institute, the powerful government agency set up by Castro to run the economy. The Institute, in turn, will sell the surplus tobacco, mostly to West Europe.

• The Agrarian Reform Institute has already taken over, earlier this year, a large part of the tobacco acreage, including almost all tobacco farms having sharecroppers. The tobacco industry now operates largely through cooperatives of private owners. This move indicates that the entire Cuban tobacco industry (Cuba makes its own cigars for export to Europe) may be only a step away from full-scale nationalization.

This in itself would not mean an end to U.S.-Cuban tobacco trade. What worries U.S. cigar men is that a complete take-over and reform of Cuban tobacco production may place tobacco growing in the hands of men who know little about its proper care and cultivation.

"If this happens," says one trade source, "the new agrarian reforms will

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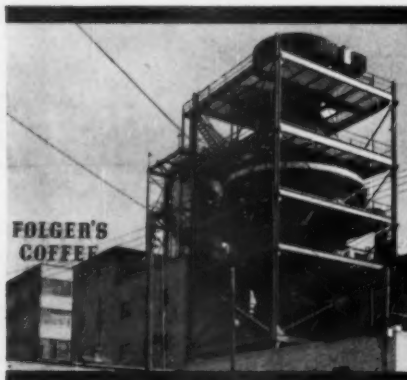
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undoubtedly sacrifice production efficiency and knowhow to a political goal. The tobacco crop will drop slightly in the next few years, and because we need all we can get to maintain proper inventories and production, good leaf may be in short supply."

• **Broker's Role**—The faster pace of Cuban expropriation of U.S. property is also having an indirect effect, by making U.S. cigar manufacturers reluctant to lend money to Havana tobacco brokers. Without this source of funds, the brokers aren't able to buy choice parts of the crop for eventual shipment to U.S. clients.

The broker is more than just a middleman. He not only buys the choice tobacco, but also cures and treats it before shipment. "We can't do without the Cuban brokers," say industry sources, "and because we have been afraid to lend them money recently, they have had a tough time supplying us with the choice tobacco that U.S. smokers want."

• **Congressional Trigger**—The cigar makers are concerned not only about what Cuba might do on its own. One serious worry, industry men say, is the get-tough policy advocated by some U.S. congressmen, especially representatives from Florida. Under the reciprocal trade agreement between the U.S. and Cuba, all Cuban tobacco imports come into the U.S. at a 20% reduction in duty. That's what these congressmen want to change.

"We'd have to pay more for our tobacco, and cigar prices would have to go up," say Tampa cigar men. But that isn't the worst they fear. "We can weather the price situation," they add, "but we're sure Castro would retaliate."

• **Building a Hedge**—Cigar makers, of course, have been aware of the dangers in Cuba's political situation ever since Castro came to power nearly two years ago. As a hedge against any sudden cutoff, they have been steadily building tobacco inventories. Today, about 44-million lb. of Cuban leaf stocks are stored in the U.S.—more than two and a half times the level of three years ago.

"If Cuban tobacco stops coming into the country tomorrow," says Stanley Keyser, president of Consolidated Cigar Corp., biggest of the cigar manufacturers, "we could keep on making cigars for the next two or three years and never once change their Havana content." The same is true for General Cigar Co., second largest producer, and most other U.S. manufacturers—though some of the smaller companies may not have had funds available for large inventory building, and the makers of clear Havana cigars may feel the pinch more.

By the time stocks were used up, adds Keyser hopefully, "the political situa-



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tion in Cuba should be stable enough to allow tobacco to flow again."

• **Alternate Sources**—U.S. producers aren't taking any chances, however. At present they are trying to find alternate sources of supply. Most producers are experimenting with tobacco from Central and South American countries in hope of finding a suitable substitute for Havana leaf; the best bets seem to be Brazilian and Nicaraguan leaf. They are also trying out leaf from Sumatra in Indonesia.

If none of these fills the bill, they'll turn to domestic tobacco: Connecticut, Florida, and Georgia shade-grown leaf wrapper, and Pennsylvania, Ohio, and Wisconsin filler leaf. "We're sure we can come up with a combination just as acceptable to the cigar smoker as the present Havana cigars," the producers say.

Even the Tampa manufacturers, who insist there's no substitute for Havana leaf, reluctantly admit that if it came to the point they would turn to another leaf. "It would either be that, or go out of business—and nobody wants to go out of business," they say.

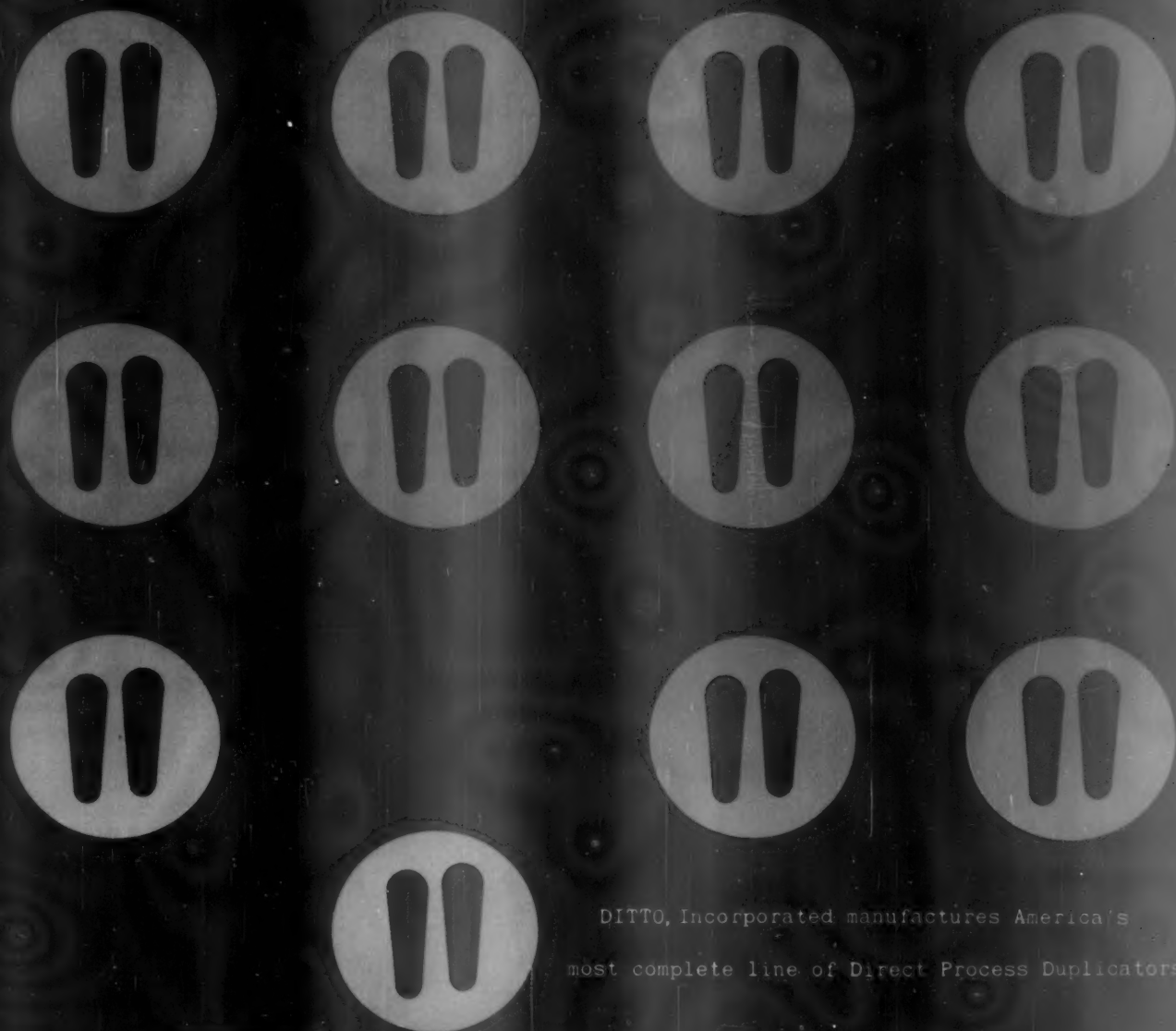
• **Hopes in Cuba**—But while they look for a hedge, U.S. cigar men pin their hope of averting a cutoff of Cuban supplies on two things—the importance of tobacco to the Cuban economy, and Castro's need for dollars. Tobacco is second only to sugar in Cuba's economy, and each year brings in over \$100-million from exports and internal sales. It supplies jobs for about 108,000 Cuban workers.

Cigar men feel this industry could not survive without the U.S. market. Cuban tobacco exports are estimated at \$54-million for last year. Cuba's Agrarian Reform Institute, which claims total exports at a far higher level, says 1959 exports to the U.S. came to \$34-million in leaf plus \$4-million in manufactured cigars.

This situation leads U.S. officials to pooh-pooh the idea of a cutoff in exports of Cuban leaf to the U.S. and U.S. cigar men are quick to point out that since the U.S. clamped down on imports of Cuban sugar, Castro is in dire need of dollars for machinery and replacement parts.

"It must be really bad," says a major cigar producer, "because Castro went so far as to invite Tampa manufacturers to a powwow in Havana last month. He promised them that their property would not be expropriated and that they could have all the tobacco they need." This, to most cigar men, proves that Castro needs the U.S. market and dollars.

"After all, where else in the world could he sell all that tobacco at such good prices?" observed one Tampa dealer. "That's what everyone was saying about sugar," retorted another. **END**



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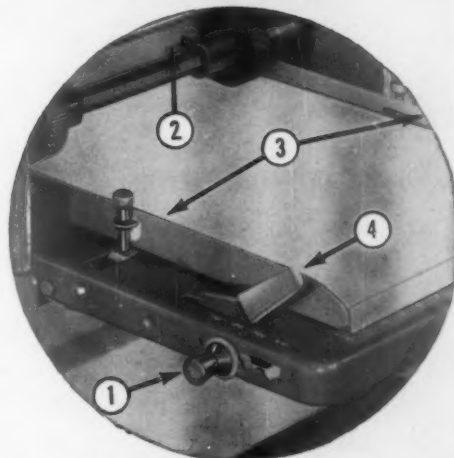
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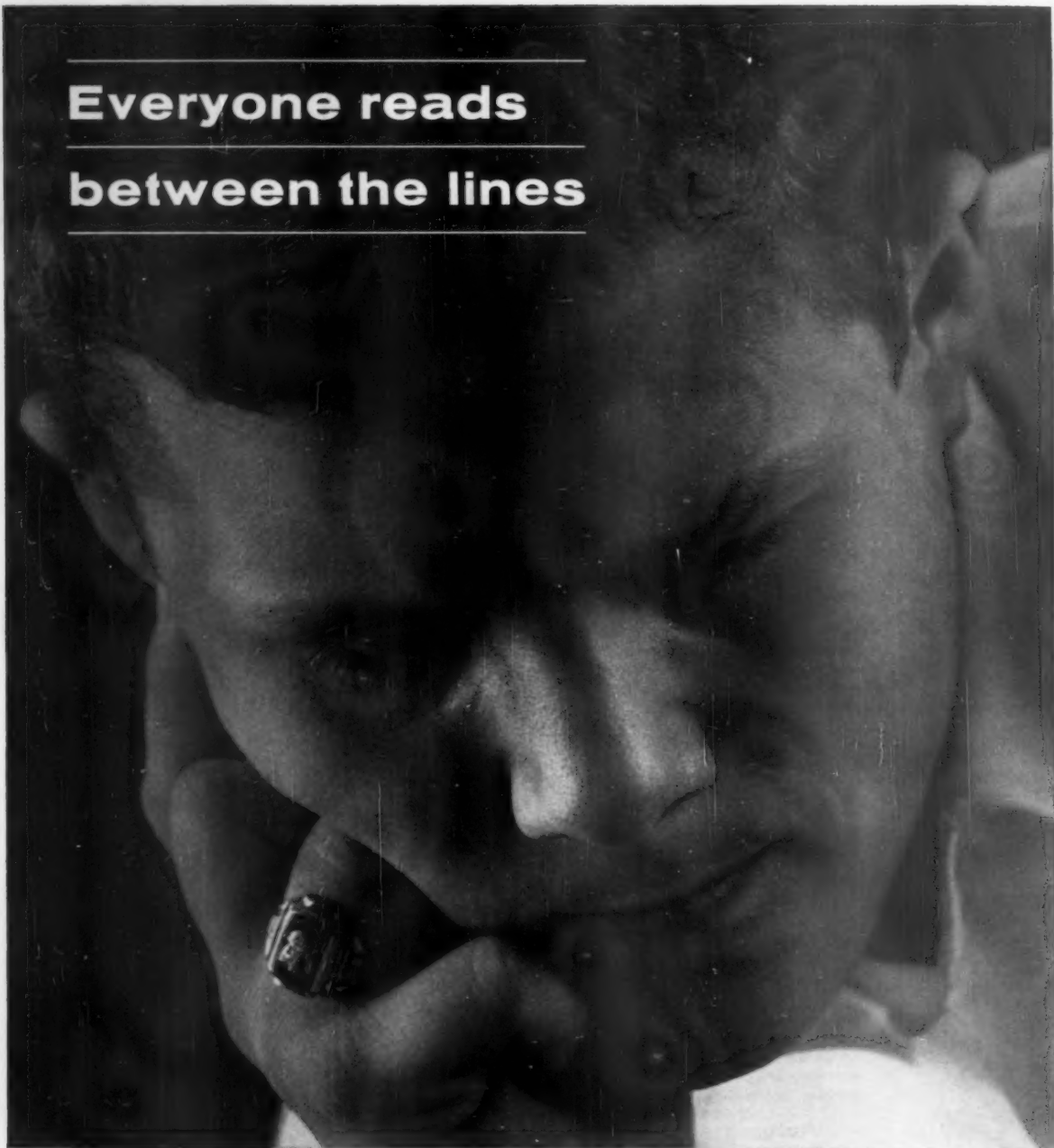
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In Research

• • •

Bacteria to Gnaw Sulfur in Smoke Stacks; A New Way to Get Detergents Out of Water

The American Chemical Society's 138th national meeting this week reported scores of new developments coming out of the nation's research laboratories. Among the more interesting ones:

- Bacteria that will be able to "eat" the sulfur out of the smoke stacks of industrial and power plants. Bureau of Mines scientists, working in Pittsburgh, are currently testing the bacteria on a series of coals, with an eye to applying the idea commercially.

- A potentially cheap ion-exchange method for removing detergents from waste water. Long the despair of sewage disposal plants, detergent removal has been a serious problem in certain areas in recent years. One of the ingredients of detergents (the alkyl benzene sulfonate materials) defies most disposal processes. But when waste water is passed through a column containing a plastic-like material called Duolite, most of the detergent in the water is removed in exchange for a harmless material. The only problem with the system at the moment is that it is difficult to regenerate the Duolite. If this can be solved economically, it may mean that a cheap and easy way of preventing detergents from getting into surface water supplies has been found.

• • •

Scientists to Restudy Liquid Fuels For Rocket and Missile Uses

A \$1.3-million research contract to conduct a comprehensive study of liquid fuels has been awarded by the Air Force to Texaco, Inc. Under terms of the contract, Texas researchers will assess every known type of liquid fuel for its potential value as a rocket or missile fuel. They will also attempt to develop new fuels that will avoid many of the problems now associated with the handling and storage of high-energy liquids.

During the past decade, scientists have made tremendous advances in the research and development of chemical fuels that pack a maximum of energy into a minimum of weight and space (BW-Jul.20'57,p72). The specific impulse of liquid chemical fuels (the measure by which energy-per-pound is measured) has risen spectacularly in recent years.

But the military is still far from happy at the conditions that use of high-energy liquid fuels impose at the missile site. Liquid oxygen, for example, is the oxidizer used to boost both the Thor and the ICBM Atlas into space. Because LOX is relatively unstable and must be manufactured "on-the-spot," it's now being replaced in many missile systems by more storable liquids, such as nitrogen tetroxide. Other fuels such as liquid hydrogen—which will be used to put the 1.5-million-lb. thrust Saturn into space—lack density and are difficult to handle.

MORE NEWS ABOUT RESEARCH ON:

• P. 83—Radiation Threat to the Brain?

Progress in developing high-energy monopropellants has not been so fast as the military might have wished, either. Monopropellants are liquid fuels that combine a fuel and oxidizer into a single system that can be fired in a relatively simple mechanism. Some of the newer monopropellants can be stored for long periods without deteriorating. But they don't yet provide the thrust per pound that separated fuel-oxidizer systems do.

• • •

New Penicillin Promises to Scrag Those Hardy Hospital Staphylococci

A new synthetic penicillin that can destroy the rugged staphylococcus germs that defy other antibiotics and cause hospital epidemics will be available soon. To be called Staphcillin, it has proved highly potent in early tests on humans in the U.S., Canada, and Britain. **Toxicity and adverse side effects are said to be very slight.**

The antibiotic was developed cooperatively by Bristol Laboratories and a team of British scientists. It's the second new penicillin to emerge from the labs in 12 months, and falls in with the prediction that isolation of the basic substance of the penicillin molecule would lead to a whole new family of effective antibiotics (BW-Mar.14'59,p181).

• • •

Underground Nuclear Explosives Useful In Some Mining Operations, Experts Say

The possibility that underground nuclear blasting may have significant commercial possibilities has again been suggested—this time by Lysle Shaffer, professor of mining at the University of California, and W. G. Flangas, mine superintendent for the Reynolds Electric & Engineering Co.

There is good reason for believing that underground nuclear blasting can profitably be used in conjunction with a mining technique known as block-caving, Shaffer and Flangas say. This method of mining currently involves the tunneling under of bodies of ore, followed by the detonation of conventional explosives in such a way as to drop the broken ore into the tunnels from where it may be withdrawn to the surface.

The cost for a nuclear explosive, equivalent to 2,000 tons of TNT, is quite high—about \$500,000. Besides this, for every million tons of ore crushed by an underground nuclear explosion, mining companies would have to bear the cost of digging two tunnels instead of one in order to protect workers. But compared to current costs of undercutting and blasting blocks of ore of this size, the use of a single nuclear shot would represent a real saving, according to Shaffer and Flangas.

Block-caving is most often used in the mining of low-grade copper deposits. But the technique is also applicable, Shaffer and Flangas say, to the recovery of limestone and iron ores.

DOW
NEWS
ABOUT
PRODUCT DESIGN
AND
MATERIALS

Scarcely a day goes by that Dow chemically engineered plastics don't contribute to the design of a new product, or to an improved design for an old one. And nowhere is their versatility and economy so well employed as in products for the home. Here, the moldability, color, finish and strength of Dow thermoplastics encourage good design, simplify production, add sales appeal across the board.

NO PLACE LIKE HOME FOR TODAY'S NEW PLASTICS

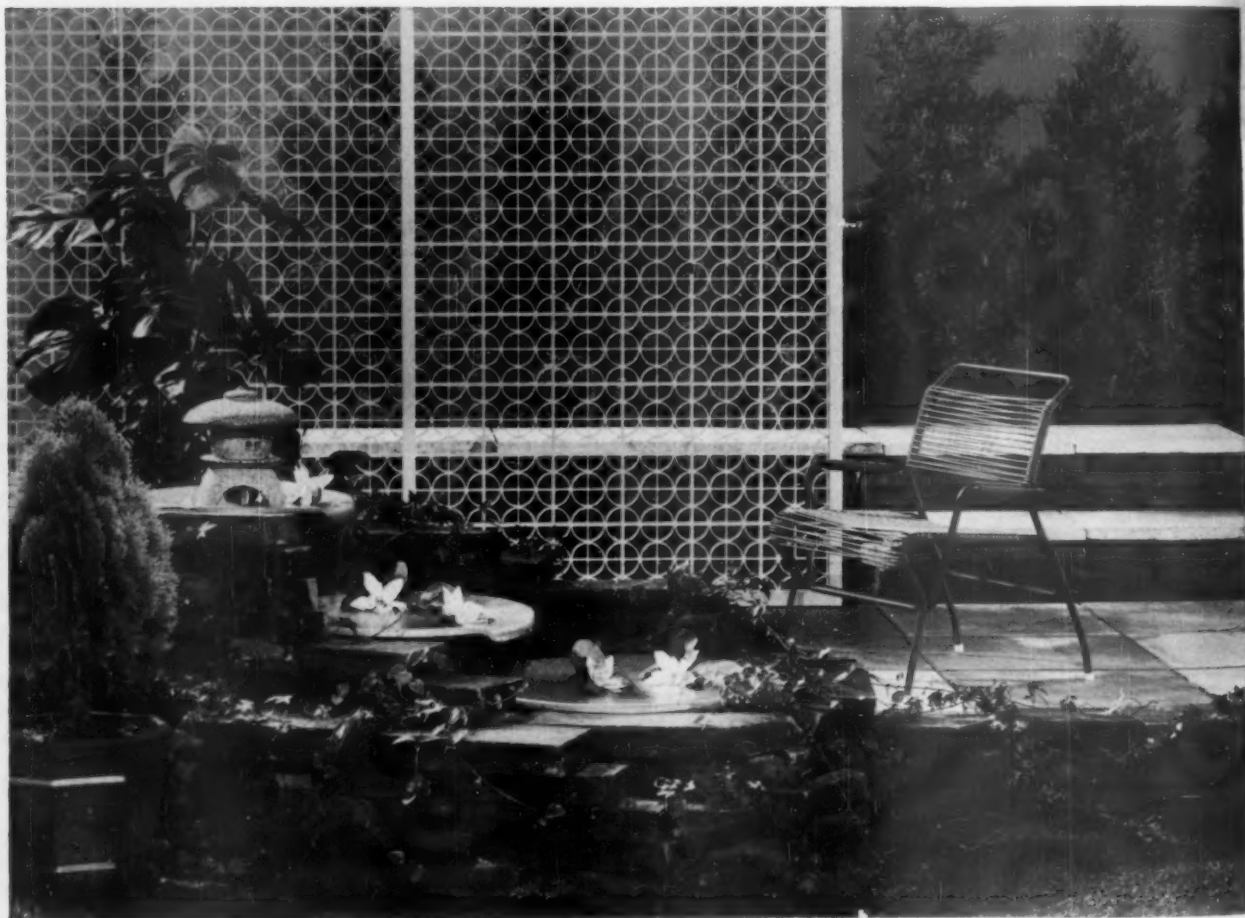
What do you make, sell, design—or buy—for the modern home? Waterfalls, perhaps . . . or chairs . . . or floor scrubbers . . . or can openers? Whether it's as standard as a chair or as novel as an electric can opener, chances are one of the many materials in the Dow family of thermoplastics will make it . . . or make it better.

Take a patio screen made of the new Dow plastic called Zerlon®. This new Dow material is ideal for the patterned

latticework grille that increases privacy or serves as a room divider. The inset plastic is attractive and stays that way,

all year 'round—even out of doors. Zerlon is formulated to withstand weather, including the heat of a hot summer sun. Other features of Zerlon: high tensile strength, good optical qualities, easy fabrication either by molding or extrusion.

Plastics have a hand in these attractive patio chairs, too. The cord is made from PVC . . . Dow polyvinyl chloride resin.





Both cord and fabrics are made from PVC in a wide spectrum of colors and combinations. They feel good to the sitter, keep their shape, and fit outdoor decor. And the beauty of it from the housewife's point of view—materials made with PVC wipe clean with a damp cloth.

Want your own waterfall? Make sure it's molded of vacuum-formed Styron® 475, as this one is. Because the fall recirculates water, it's important that the material should not be absorbent. And it should be able to take normal bumps and shocks without shattering. Styron 475

gives this attractive patio piece high impact strength, flexural strength, non-absorbency and offers beautiful printed design possibilities.

In the kitchen, Styron 475 provides many modern kitchenware and houseware items. For example, it makes a smooth, colorful, durable housing for appliances that scrub linoleum and tile, shampoo floors, vacuum carpets and floors. Color choices with Styron are virtually unlimited. Another formulation, Styron 369, makes the housing for clock radios, is especially formulated for heat

resistance, impact strength, good dielectric properties. Clock housings and face dials are molded from Styron 666.

Tyrl® is a favorite Dow thermoplastic for many home products, from electric can opener housings to lint filters for washers. Strong, tough, craze-resistant Tyrl withstands chemical attack of oils, waxes, soaps and solvents. It stands up well under ordinary heat, stays dimensionally stable. A high gloss finish and wide spectrum of built-in colors make it first choice for many modern home products.

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Alfred Russell

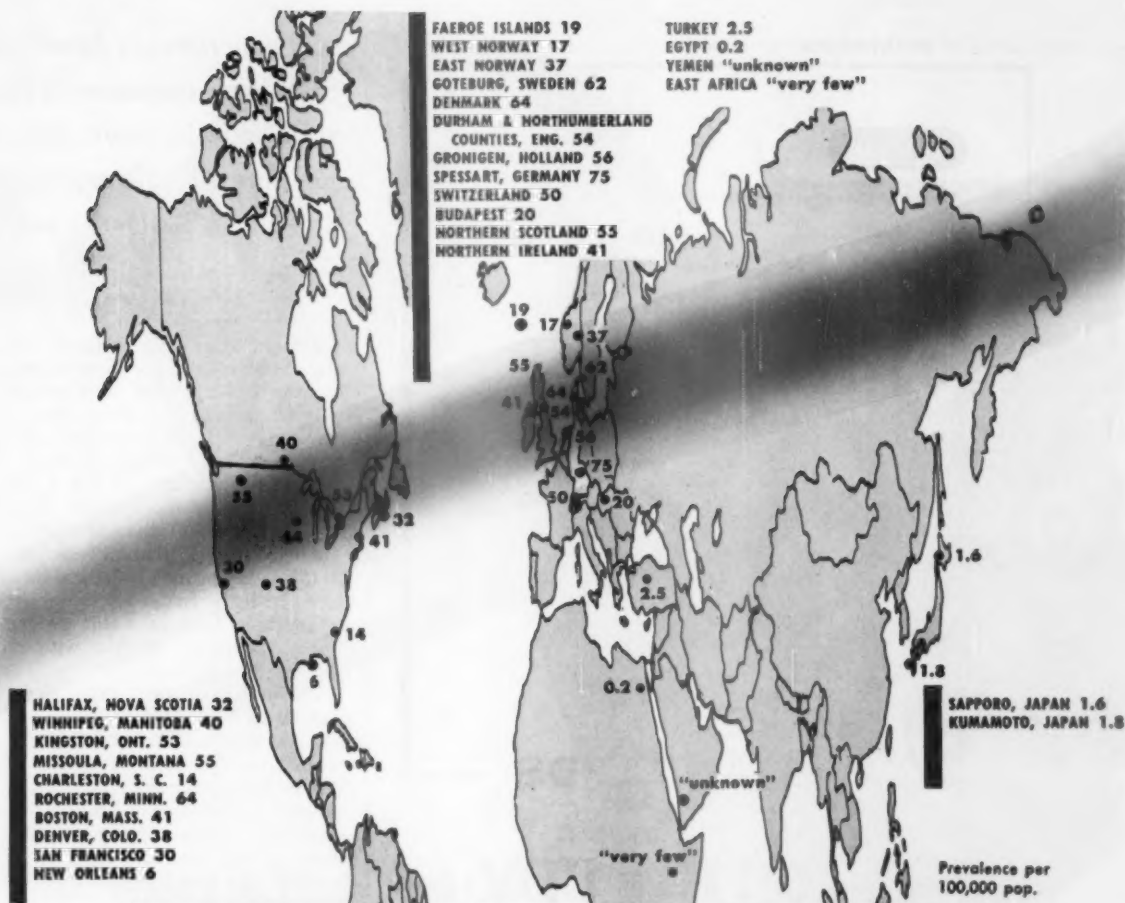
GOVERNOR OF THE STATE OF WASHINGTON



One natural resource not found in Washington, petroleum now pours into the Puget Sound area by pipeline from Alberta, by barge and tanker from overseas. Industrial expansion and a growing population have built a market for four major refineries now in operation, another four for which sites have already been purchased. The refineries, in turn, have brought corresponding growth in allied petro-chemical industries.

For your free copy of "BASIC ECONOMIC DATA AND INDUSTRIAL SITE INVENTORY" write to Sam Boddy, Jr., Acting Director, Washington State Department of Commerce and Economic Development, General Administration Building, Olympia, Washington.

**THE SURPRISING
STATE OF WASHINGTON**



In this band most cases of multiple sclerosis are found. Here also cosmic radiation is heaviest and nuclear fallout has been most intense.

©BUSINESS WEEK

Radiation Threat to the Brain?

Evidence now suggests that even relatively light exposure can be far more dangerous to the central nervous system than had been supposed. Link seen to multiple sclerosis.

A grave warning was sounded last week about the effects of radiation on the human nervous system. It came in reports that emanated from a three-day symposium at Northwestern's medical school. Evidence, both statistical and experimental, hints that even relatively light exposure to radiation may be more dangerous than U. S. scientists had supposed.

A moderate cumulative dose, the reports indicate, may disturb mental capacity, concentration, and even behavior. It has been demonstrated that a half roentgen of high-energy radiation damages man's visual function. And there seems to be a direct connection between exposure to radiation and cer-

tain baffling diseases of the central nervous system, such as multiple sclerosis.

So far, the linking of radiation and multiple sclerosis is purely circumstantial. But many neurologists are worried over what the latest studies seem to reveal.

Multiple sclerosis, which afflicts an estimated one out of every 400 Americans in the 20-40 age group, has been known for more than a century. But doctors have been unable to pinpoint either its cause or a method of preventing it. The disease cripples by causing the degeneration of the sheath-like covering of the nerve fibers in the brain and spinal cord.

• **Geography**—One thing that research-


ers have noted is that the disease is much more prevalent in the northern than in the southern parts of Europe and North America, and that it is almost never found in the Orient, South America, Africa, the tropics or the subtropics. This distribution pattern has been linked by some scientists to the amount of solar radiation soaked up by the individual. Others have seen a clue in trace elements found in northern soils. But such theories have never found strong support.

Now, John S. Barlow, Harvard neurologist, thinks he has a lead on what starts the degenerative process that causes various chronic diseases of the nervous system. His data—including statistics gathered in North and South America, Europe, Australia, Africa, Russia, Japan, Asia, and the Pacific Islands—points to a close connection between geomagnetic latitude and multiple sclerosis. (Geomagnetic latitude is



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... experiments have indicated slow exposure to radiation may be more dangerous than a single exposure...

(STORY on page 83)

location based on the earth's magnetic axis, which is slightly skewed from the axis of the earth's rotation.)

• **Cosmic Rays**—The intensity of cosmic radiation is the only phenomenon known to be related to geomagnetic latitude; hence it is reasonable to assume that exposure to cosmic rays may be a factor in multiple sclerosis. Dr. Leonard T. Kurland of the Epidemiology Branch of the National Institute of Neurological Diseases and Blindness suggested in 1957 that latitude (at least in the U.S.) seemed to have something to do with the frequency of occurrence of multiple sclerosis. But geographic latitude failed to correlate with prevalence of the disease.

On the other hand, experiments on animals have consistently indicated that the slow accumulation of radiation from normal sources—such as cosmic rays—can be more dangerous than the same amount of radiation in a single massive exposure. Other exposure sources are listed as radiation from rocks and soils, medical and dental X-rays, and fallout from nuclear explosions.

Barlow charts much of the band between 43 and 60 degrees north geomagnetic latitude as heavy in cosmic ray exposure. It happens that, because of prevailing winds, this is also an area where the fallout from atomic bomb tests has been heaviest. And it is also where there is the widest use of X-rays.

Barlow does not overlook the possibility that there may be other intermediaries between radiation and multiple sclerosis—for example, certain still unrecognized infections may trigger the disease. He even admits that it is remotely possible that sheer chance causes most recorded cases of multiple sclerosis to occur in the band of heaviest cosmic radiation. After all, circumstantial evidence, regardless of how convincing it may be, can never constitute complete proof.

• **Supporting Evidence**—Just the same, the significance of Barlow's theories are gaining weight from other research around the world on the effect of radiation on the deleterious central nervous system:

• Dr. Paul S. Henshaw, of the Atomic Energy Commission, admits that experiments on animals indicate the human nervous system may be more vulnerable than had been suspected to radiation (BW—Jun. 8 '57, p50). What's



to move the world...

"Give me a place to rest my lever
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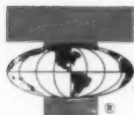
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Mobility:

Indirect Costs Drop With Clark's Integrated Materials Handling Concept

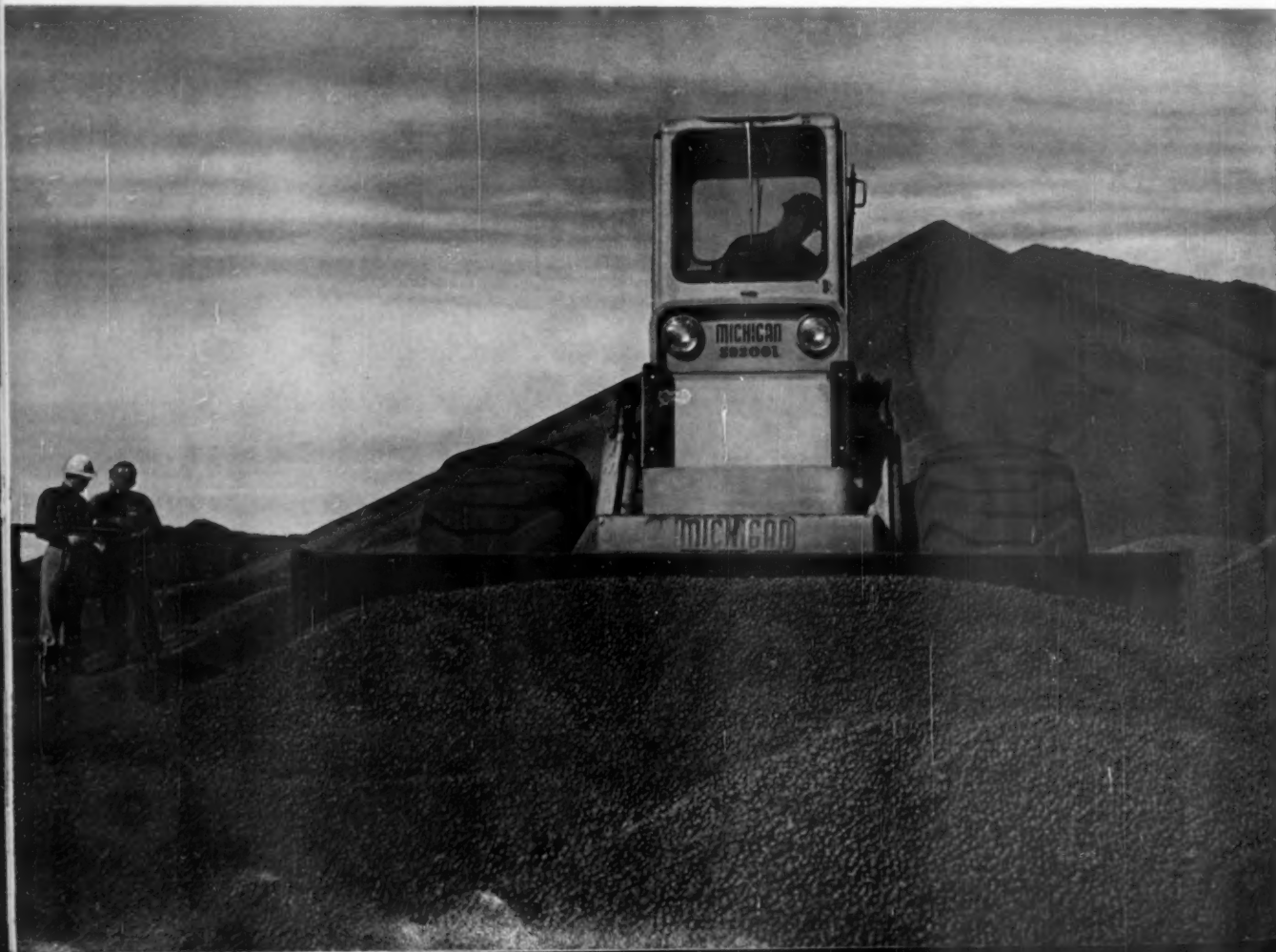
Profit squeeze puts new emphasis on continuous movement of products and maximum utilization of men and machines

Here's a typical example of the savings afforded by mobile Clark-built machines. Working at a Minnesota taconite plant, this dozer levels truck-dumped pellets at twice crawler speeds. Its big tires provide the added advantage of compacting the pellets to conserve stockpile space. Yet there's little powdering—a major problem with crawlers.

Caught in the vise of rising manufacturing and distribution costs on the one side, and rugged price competition on the other, management is taking a hard new look at indirect expenses.

This seems to be one of the last areas for major cost reductions. In many companies attention has long been centered on direct labor efficiency, but programmed materials handling, one of the biggest items in the indirect expense budget, has lagged behind.

Clark Equipment Company's materials handling specialists suggest that new cost control opportunities may lie in the theory of Mobility.





When you think of fork trucks, maybe you think only of small in-plant equipment. Clark also builds machines to speed tough outdoor work. The truck you see above, for example, is especially adapted for rough terrain. On this job in Illinois, it carried 7½-ton loads of sewer pipe over footing that stopped all other vehicles.

Stated simply, Mobility means the rapid, easy, efficient and constant movement of materials, goods and people from one stage of usefulness to another. It is the bridge between creation and utilization.

Mobility applies just as well to metal fabrication as to chemical processing; to road building as to building demolition; to canning as to logging. Mobility looks at distribution not as the last step, but as a function which starts with raw materials and ends with the customer.

The key words are timing, space, speed and capacity.

As much as anything, Mobility is a state of mind.

It involves timing, to reduce or eliminate pauses between the steps of manufacturing or processing, so that the wastes of delay are minimized.

It puts cubic area, rather than just square area, to work, reclaiming air rights in the plant or warehouse or truck.

It looks for faster equipment and shorter cycles to reduce the lag between accounts payable and accounts receivable.

It upgrades the work force, using men to supply the minds and machines to provide the muscle.

Mobility is the business of Clark Equipment Company.

It builds fork-lift trucks, powered hand trucks, towing tractors and straddle carriers; tractor shovels, dozers, scrapers and loggers; truck trailers, truck bodies and transport containers; axles, torque converters, transmissions and other power train equipment—more than 300 models and sizes. Special attachments, too, to adapt

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Clark's markets are as broad as its product line. Clark Equipment is moving mountains of materials, all over the free world, in and between plants, in warehouses and mines, in the construction industry, over the road and off the road.

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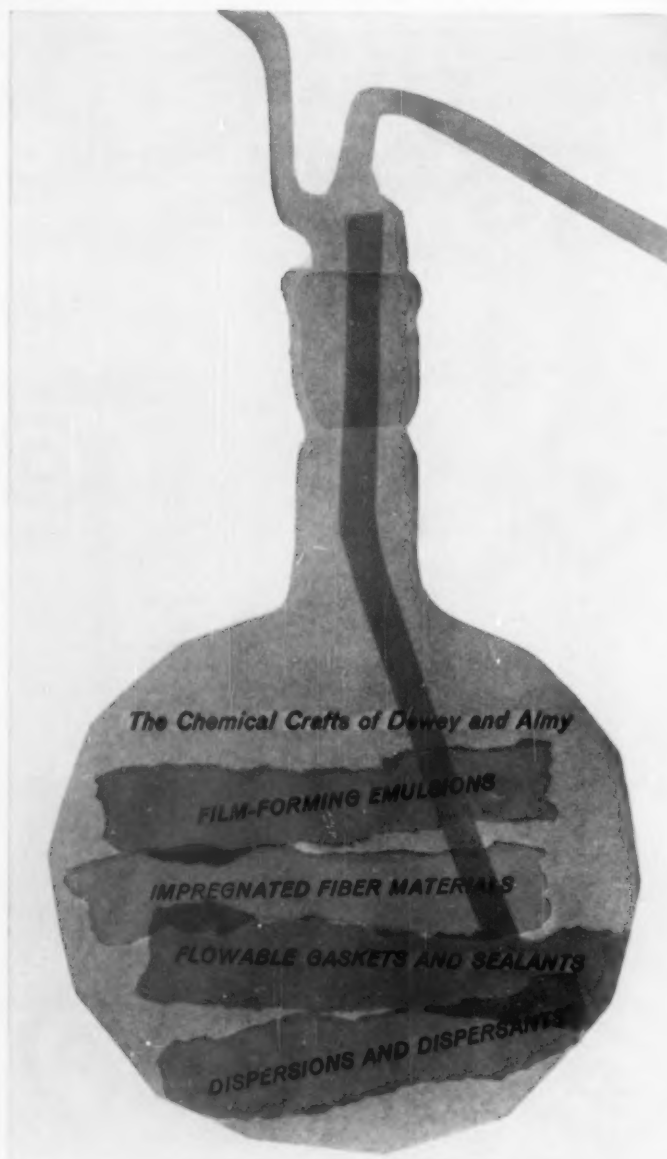
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. . . the widest possible study of radiation effects on the human nervous system must be pushed to match the increased use of atomic energy . . .

(STORY on page 83)

badly needed is knowledge of how memory is stored in the brain, and whether radiation affects the process at the molecular level. In the U.S., mice exposed to 0.001 to 1 roentgen have developed no nervous abnormalities, but in Russia detectable changes in mice at similar exposure levels have been reported since 1955.

- Even a half roentgen of high energy radiation damages the optic nerve of frogs, according to work completed at Ohio State's Institute for Research in Vision.

- Even low exposures bring changes in nerve function, according to the Navy's Radiological Defense Laboratory in San Francisco. As little as 10 roentgens of gamma rays change the behavior of rats, says RDL's Dr. Donald J. Kimeldorf.

- Relatively low doses of radiation may inflict psychological damage on both humans and animals. During the 1957 Nevada bomb tests, monkeys were placed at varying distances from ground zero. All the survivors showed effects on learning powers and distractibility for a full year; so did other monkeys exposed to varying doses from a neutron-gamma source in the lab.

- The primate brain is more sensitive to radiation than the rodent brain, according to studies made with the latest testing techniques at the University of California. Thus the brain tissue of the monkey has proved three times more radiosensitive than that of the rat.

- Radiation damage to the nervous system seems to grow progressively worse with the passage of time, according to Dr. Orville T. Bailey, neuropathologist at the University of Illinois. Bailey points out that this makes the setting of safe maximum exposure a very complex matter. The animal experiments have shown that the amount of damage depends on the rate as well as the amount of exposure. And young animals are apparently more sensitive than adults; in the young, lower doses produce neurological changes and abnormal behavior, and do it sooner after exposure. Other variant factors in neurological sensitivity are the animal's biological state at the time of exposure, its state of dehydration, the amount of oxygen it has, and the extent of its activity.

- Gap Narrows—At Northwestern, there was little clash of opinion between the American and Russian delegations to this conclave of 300 leaders

in neurobiology and radiobiology, physics and space medicine. Previously, the Russians had generally held that the human nervous system was much more sensitive to radiation than their American confreres would admit. Now, the gap seems to have narrowed at many points, with the chief remaining divergence centering on the exact level at which radiation becomes harmful to the human nervous system.

Western scientists generally argue that low-level doses alter nervous tissue less than they do bone marrow or connective tissue. The Soviet experts no longer claim that nervous tissue suffers structural changes from mild doses. But they do say that such doses slow the learning rate in dogs, and even cause them to forget recent experiences. Top Russians say that irradiation alters the metabolic processes in the nerve cells. Such changes, they say, can easily be overlooked in the usual micro-structural studies.

What everyone agreed on was that the widest possible study of radiation effects on the human nervous system must be pushed to match the increased use of atomic energy. Dr. Ray S. Snider, of Northwestern, pointed out that medical and dental use of X-rays and radioactive isotopes are also on the rise.

- AEC's Action—One step to cut down radiation danger came last week when AEC reduced the maximum annual dose for any one worker to 5 rems from 15. (The rem, or roentgen equivalent man, is a dose of any ionizing radiation estimated to produce a biological effect equal to one roentgen of X-rays.)

The AEC move was announced before the Northwestern gathering, but it came as evidence that AEC thinking is running along the same lines as other U.S. scientists.

AEC's Henshaw admits that his evidence is still fragmentary, but he says it is already enough to show that radiation does have belated as well as acute effects on the nervous system, and therefore on the capabilities of the individual or group mind. Radiation levels just a few times higher than the natural background can no longer be considered inconsequential.

Even seeming normal performance and freedom from neurological disease aren't sufficient reason for assuming that a man has not been harmed by increased radiation. Scientists have long known that group intellect involves moods, emotional tones, and temperament, as well as ability to think. **END**



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MANAGEMENT



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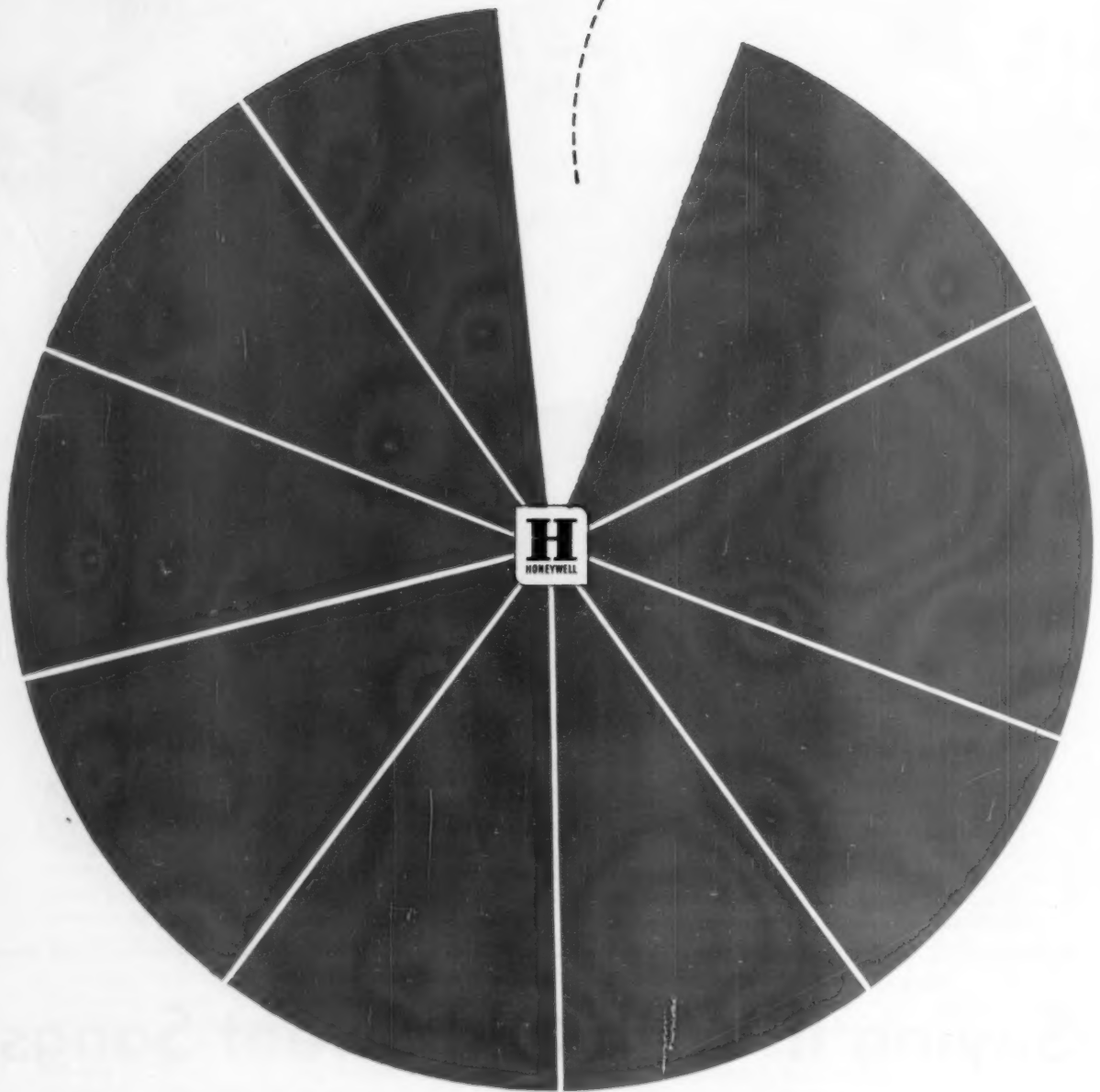
this kind of music is doing them out of perhaps as much as \$200,000 worth of business in helping A. S. Aloe Co. of St. Louis celebrate its 100th year.

Companies have many ways, mostly costly ones, of marking such anniversaries. With a bumper generation of U. S. businesses now reaching their cen-

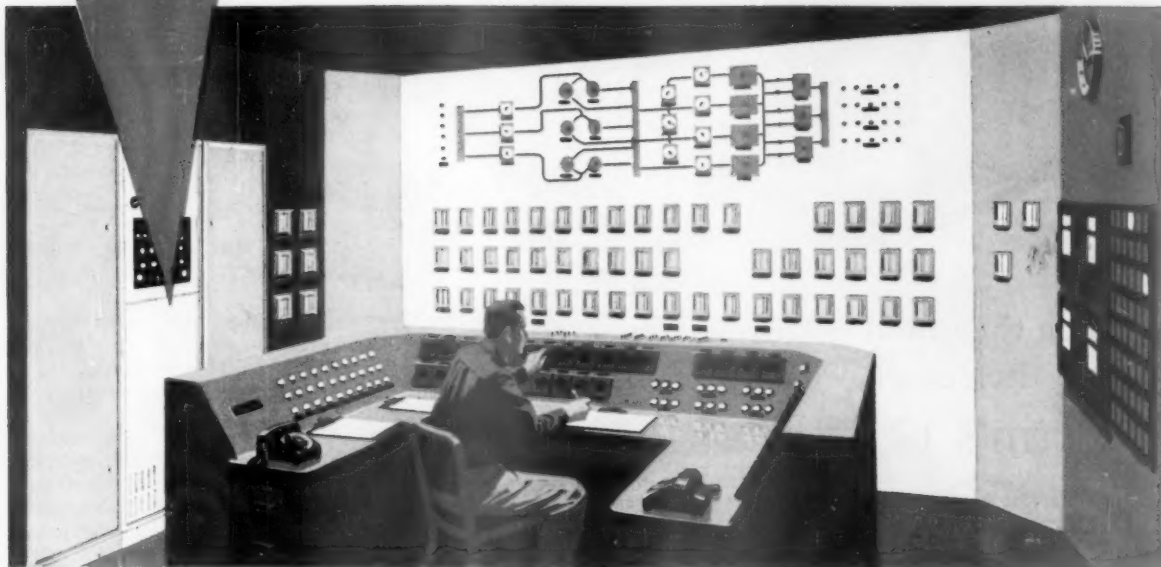
tennials, those who cater to such celebrations may well shudder if many companies decide to follow Aloe's course in basing its festivities on nostalgia, which costs little.

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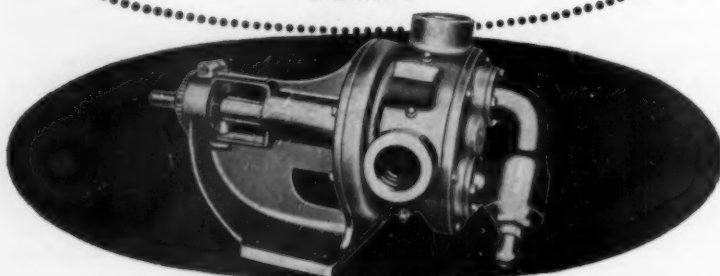
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may even make a little money on its
public relations deal.

• **Souvenir Album**—What Aloe did is this: It collected 21 old songs from the Missouri Historical Society's archives of sheet music and had them recorded by Epic Records, in authentic style and by professional singers. The records are being sent to doctors and hospitals that the company supplies, and the parent company, Brunswick, which makes school and sports equipment, next month will mail 10,000 copies to schools all over the country.

It won't be surprising then if children come home from school singing "Little Brown Jug" and "Father, Dear Father, Come Home With Me Now," or even the more esoteric hits of the last century.

The record, Epic LN 3664, will also be on public sale, which is where Aloe stands to recoup its costs and a bit more if people rush to buy it.

• **How It Started**—When Aloe's management started thinking, a couple of years ago, how to mark the centennial, no one was enthusiastic about either the cost or the conventionality of the traditional parties, souvenirs, films, and company-history books.

Dinners and drinks might come to \$20 a guest for thousands of guests; a set of specially designed dinner plates could run \$15 each; a book might cost \$100,000, Aloe feared, and there wasn't time to get one out properly. In contrast, the souvenir record so far has cost only \$60,000, including mailing costs.

Martin Quigley, a public relations consultant, had produced a booklet, titled *A Fond Look Back*, for the First National Bank, in which reference had been made to St. Louis as a city of songs, as well as of "the Blues." Quigley thought it might be an idea worth



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And remember, the products you make, process, or pack, can be sold so much better in fine folding cartons by Gair!



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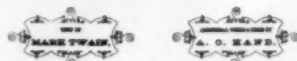
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PUNCH!



In the Presence of the Passengers.

Song and Chorus.



PUBLISHED BY
JOHN CHURCH & CO. **ROOT & SONS MUSIC CO.**
CINCINNATI. CHICAGO.

SOME ARE COMICAL, like this forgotten hit, based on words by Mark Twain.

elaboration, if the song treasures of the right period could be dug up. To finance an exploration of the historical society collection, Howard S. Baer, president of Aloe and since its merger with Brunswick also a vice-president of the parent company, made a \$3,000 grant.

• **Treasure Hunt**—Quigley knew of the collection of old sheet music, one of the largest in the country, but it was "lost" in a lot of big cardboard cartons. The grant was used to catalog this collection, which Baer thought would be worthwhile anyway. Then the rediscovered music was tested by all of Quigley's piano-playing friends.

A final selection of top tunes of the 1860-1900 period, considered to be still either lovely or laughable, was taped for Baer's approval. "As I listened, I got the fever," says Baer, and all he insisted on was that the narrowed-down selection of 21 pieces get professional performance.

• **Epic Transaction**—Quigley went to New York and arranged a deal with Epic Records. For \$1 each, Epic would press 35,000 copies of a long-playing record that Aloe could distribute as its centennial gift. Epic is to pay Aloe a 5% royalty on all the additional copies it sells commercially; record jackets bear a credit line to Aloe for the research that made the collection of old songs possible. Aloe's only additional cost was a mere \$11,000 for the musical arrangements and the services of singers and accompanying orchestra.

Albums have gone out to doctors and hospitals, and the recipients are apparently delighted. Now Aloe is distributing 7,000 more albums to its other customers. So Aloe has an appreciated anniversary gift, and Epic has an album it hopes will be a steady seller for years to come.

MANAGEMENT BRIEFS

Du Pont is the best-managed company in the U.S., according to 171 presidents of large corporations who were polled by Dun's Review & Modern Industry. Other companies named among the top ones by more than 10% of the presidents were General Electric, General Motors, International Business Machines, Minnesota Mining & Mfg., and AT&T. In all, only 30 companies were nominated, most of them among the largest; small companies that were singled out include Cutler-Hammer and Texas Instruments. What do well-managed companies have in common? According to the presidents who rated them, they have strong chief executives and give a lot of attention to management development, long-range planning, and research.

• **Wilton D. Cole**, board chairman of Crowell-Collier Publishing Co., last week became chairman of Macmillan Co. as well. Crowell-Collier acquired a majority interest in the other publishing house last July (BW—Jul.9'60,p58). Bruce Y. Brett continues as president of Macmillan. His father, George P. Brett, Jr., who has been chairman, will serve on the board and executive committee.

• The widely held idea that workers on monotonous assembly line jobs would prefer having more different things to do was tested by M. D. Kilbridge of Chicago University's Graduate School of Business. He reports in the current issue of Personnel that 104 of 202 workers on a television set assembly line preferred repeating a few tasks to having a greater variety of work. Only 24 wanted variety, and 74 showed no preference. Their main reason for wanting fewer different tasks was that it seemed like less work.

• **John H. Brinker, Jr.**, who quit as executive vice-president of J. I. Case Co. last July after less than a year with the company, was named last week as executive vice-president of Cherry-Burrell Corp., Cedar Rapids (Iowa) maker of dairy and industrial processing equipment.

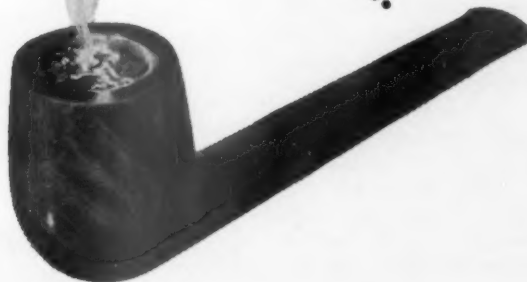
• **Vick Chemical Co.** is giving up one of the best-known names in the proprietary drug business because the name is too closely identified with that field. Vick now also has extensive operations in ethical and veterinary drugs and in chemicals and plastics. Vick's new name: Richardson-Merrell, Inc., in honor of Vick's founding family and the founding family of William S. Merrell Co., Vick's largest ethical drug subsidiary.

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when they're
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ACCT.SUPV.: You mean, we can tell them *why* to buy—as well as *where*?

Acct. Exec.: Exactly! Sell them—and send them directly to our nearest outlet.

ACCT.SUPV.: How about all the paper work involved in buying the hundreds of directories we'd need?

Acct. Exec.: No problem. NYPS handles the whole thing with just *one* contact and *one* contract. One monthly bill, too.

ACCT.SUPV.: What was that you said about commissionable?

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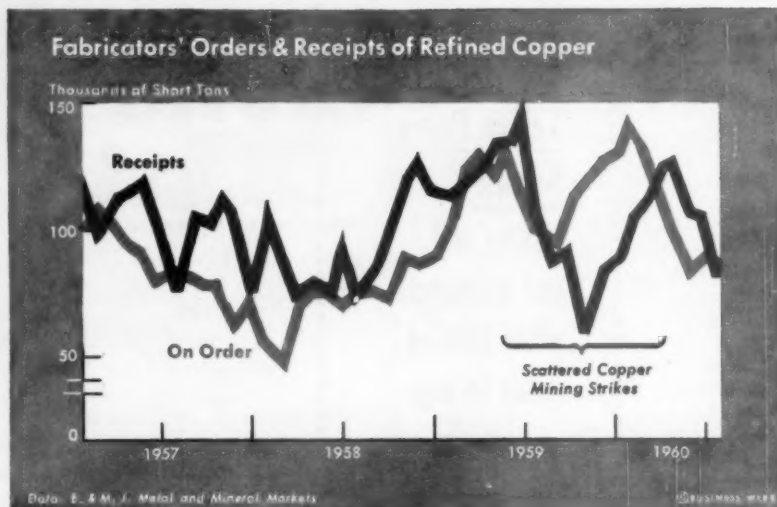
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CHARTS OF THE WEEK



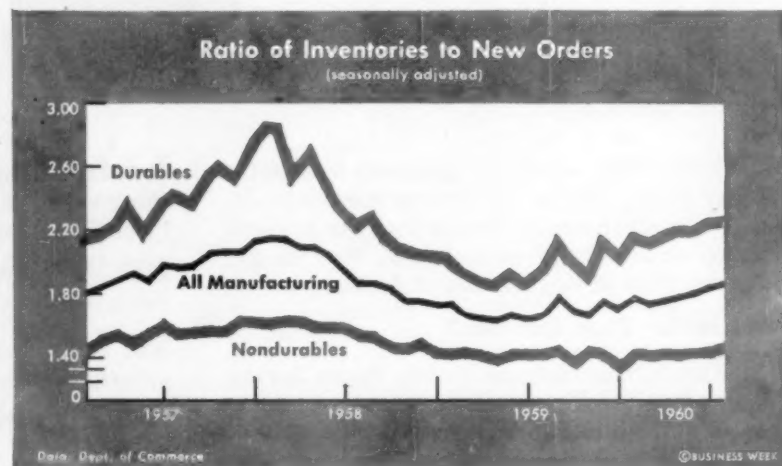
Copper Fabricators Ease Up

Plagued by the uncertainties of the marketplace, copper fabricators have drastically cut back new orders and slowed deliveries of refined copper.

In view of the general sluggishness of the economy and the strong competition from imports, many fabricators have been expecting a price cut from the custom smelters, but so far this year it has not materialized. The current tur-

moil in the Congo, source of much of the free world's copper, plus labor problems in Chile and South Africa, have helped to keep the domestic delivered price at 33¢ a lb. where it has held since last March.

Meanwhile, fabricators have been working off their inventories, reluctant to place new orders before they are actually needed.



Inventories Outdo New Orders

No one worries about high inventories as long as new orders keep coming in at a good pace; but when the ratio of inventories to new orders starts upward and continues to rise as it has since February, business forecasters get concerned.

In July, the ratios for both durable and nondurable goods manufacturers, on a seasonally adjusted basis, reached the highest point since the third quarter of 1958. New orders for durable goods totaled only \$14.1-billion in July, down \$200-million from the previous



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Whenever you're in a quiet room—look up. If there is a beautifully textured acoustical ceiling, chances are it's Forestone®. *The sounds you never hear* are absorbed by Forestone. This deep-etched woodfiber tile makes any room more beautiful, more liveable, yet costs very little. Forestone has high sound absorption characteristics... can be repainted anytime without loss of textured beauty or noise control benefits. Select from 4 handsome textures. Call your Simpson Certified Acoustical Contractor (look under Acoustical Materials in the Yellow Pages) for complete information and a prompt estimate. Write for folder: Simpson, 2002J Washington Bldg., Seattle 1, Washington.



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...Dr. John Gorrell, Pres., Gorrell & Gorrell, Westwood, N.J.



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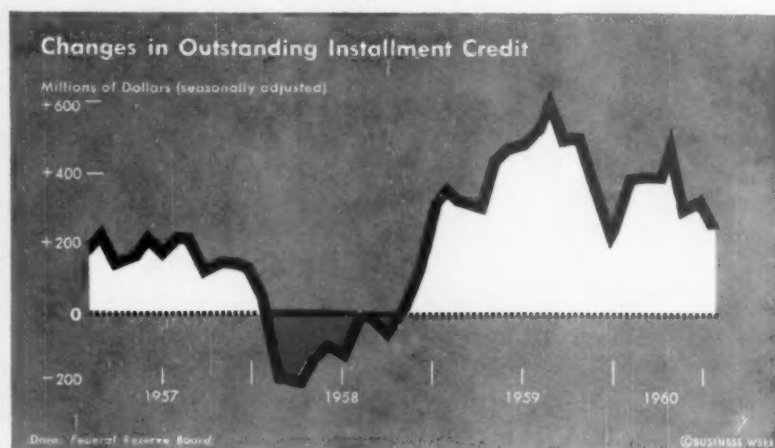
Bodine Electric Co., 2526 W. Bradley Pl., Chicago 18

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month and \$700-million below the year's high in February. Biggest losses occurred in primary metals.

Nondurables, too, felt the squeeze as new orders tumbled to \$13.5-billion, the lowest since October, 1959.

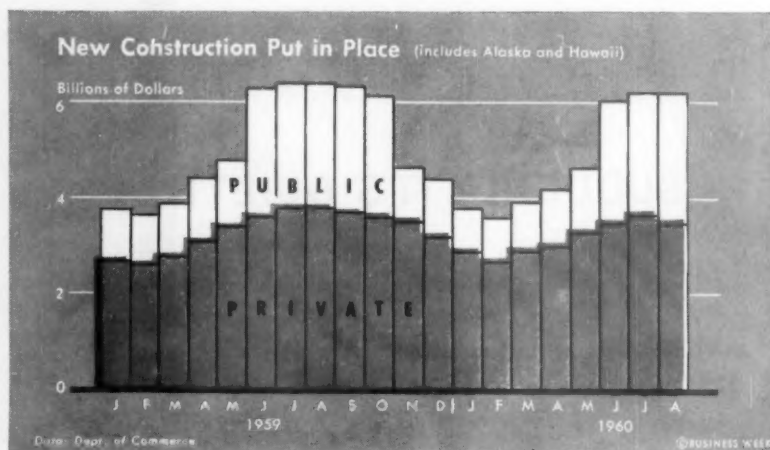


Consumers Cut Credit Accounts

The American consumer added less to his on-the-cuff accounts in July than in any of the previous 19 months. On a seasonally adjusted basis, new consumer installment debt came to only \$4.2-billion during July, while repayments reached a record high of close to \$4-billion. This posted an increase of \$249-

million, the least since November, 1958.

Retail sales figures for July reflected this small addition to outstanding installment credit. July automobile sales were especially disappointing; they added only \$28-million to outstanding credit, compared with \$223-million in July, 1959.



Public Construction Moving Up

There was a visible softening in private construction put in place in August, particularly in homebuilding; but federal, state, and local governments stepped up their activities to help fill the void.

New public construction in August stood at its highest level since June,

1959, and almost double the volume at the start of 1960. Roads and schools got the biggest share of the \$1.7-billion outlay.

Public utilities led the field in non-residential private construction, with industrial and office buildings going up at a healthy rate, as well.



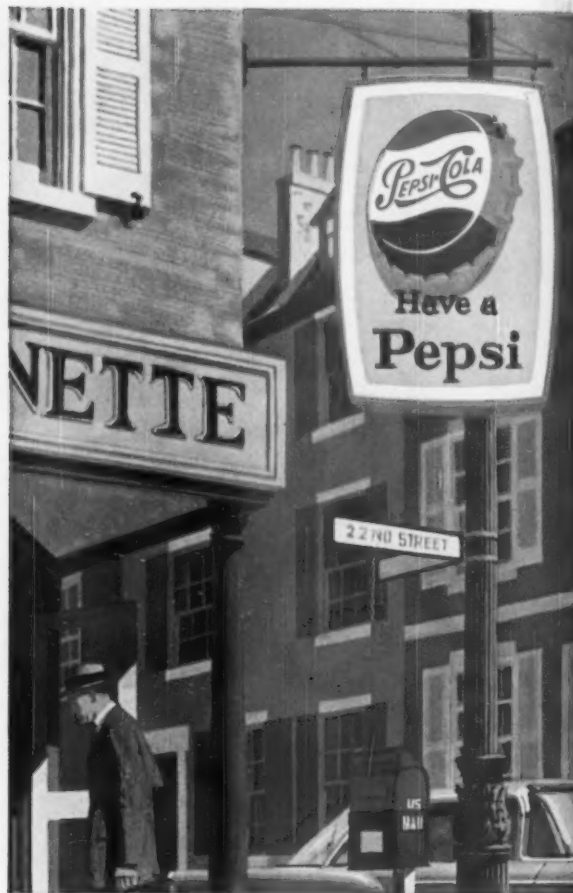
To spin a rainbow, begin with white. By first bleaching fibers through safe, modern techniques, textile makers can dye yarns uniformly with a whole spectrum of brilliant colors. Pennsalt supplies bleach chemicals—chlorine, sodium chlorate and hydrogen peroxide—by the tankcarful to both the textile and paper industries.

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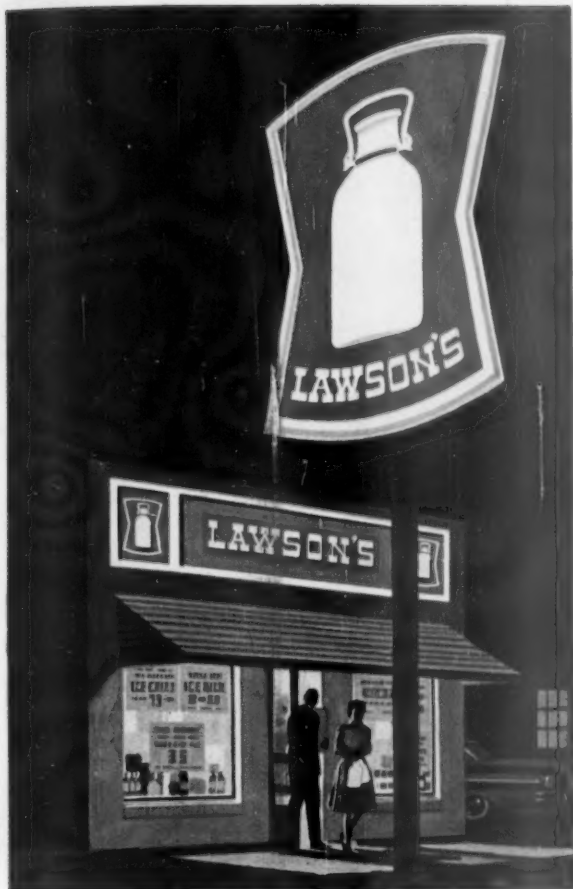


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PLEXIGLAS is the sign material that has sparked a revolution in dealer-identification sign programs

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In Production

. . .

Survey Finds Middle Management Fears

Computers Will Delete Its Job

The reason there aren't more computers humming along in offices is that middle management is afraid of ending up out of a job.

That's the consensus, anyway, of 36 companies in New York, Cleveland, Chicago, and Los Angeles, polled by Dr. Ernest Dichter's Institute of Motivational Research. After interviews with top, middle, and lower management, Dichter reported last week that middle management is edgy about two things: that its job will be reduced to running machines rather than making creative management contributions, and, almost as a corollary, that it will eventually become obsolete.

It's these fears, says Dichter, that have generally made most middle management resist computers. And their recommendations are what largely help the top brass decide whether to buy the machines.

Dichter made the study for *Modern Office Procedures* magazine and announced his findings at a meeting of computer makers.

. . .

Automatic Hookup to Test and Report

Water Conditions in Ohio Valley Streams

An electronic watchdog to measure pollution in Ohio River streams has been developed by the Ohio River Valley Water Sanitation Commission, and will go into operation this fall.

The device, called the Robot Monitor, is believed by the commission to be the first of its kind for automatically measuring the quality of water in river basins or elsewhere. It consists basically of three units—an analyzer and transmitter, a telemeter receiver, and a data logger and transcriber.

The analyzer and transmitter automatically measure stream quality at intervals and transmit findings to the commission's telemeter receiver in Cincinnati. There, the figures are tabulated on a data logger, and a written record is typed out. Besides this written record, the transcriber makes a punch tape for computer input, so over-all averages can be compiled and stored.

The system can measure 10 different characteristics of water, from as many as 40 locations throughout the eight-state Ohio Valley area. This takes in Illinois, West Virginia, Indiana, Kentucky, New York, Pennsylvania, Virginia, and Ohio. When "unusual conditions" are detected, an alert will go out to water users and regulatory agencies.

Right now, the commission is relying on a network of 43 manually operated observation stations scattered along the Ohio River and its major tributaries. These were established 10 years ago.

MORE NEWS ABOUT PRODUCTION ON:

- P. 106—Switching an atomic reactor on.
- P. 111—Machines and "scrambled" books that make learning almost painless.

Cigarette Machine Uses Air Jets

To Help Cut Down Soft Spots

Last week when Philip Morris, Inc., announced a new cigarette, many tobacco men seemed more interested in the machine that made it than in the cigarette itself.

Normally in cigarette factories, a gravity feed system drops ground tobacco from a "hopper" onto a moving belt. This carries the tobacco to the point where it is mechanically rolled and formed in the paper.

Now, Philip Morris has installed a Mark VIII developed by London's Molins Mfg. Co., Ltd., that uses high-speed air jets to blow the tobacco out of the hopper and move it along to the rolling and forming unit. Essentially, the tobacco "sticks" to the underside of a revolving, porous tape through which the high-velocity air flows. By a kind of straining action, the tobacco clings to the underside of the tape, and moves along to the point where it is transferred from the tape or band to the cigarette paper by manipulation of air pressures.

In this, says Philip Morris, the tobacco should remain densely packed while it is rolled and formed in the paper. This is supposed to mean more uniform density, hence more uniform cigarettes, over-all.

Several other cigarette machine makers are busy modifying existing systems or designing new ones that will help cut down on this problem of "soft spots" in cigarettes and lack of uniformity.

American Machine & Foundry Co., one of the leading machine suppliers to the industry, claims it has a new system that is supposed to accomplish the same thing as the Mark VIII, "but on a little different principle." An official announcement of details won't be coming for another three to six months, and the first machine won't be on the market for another year, according to an AMF spokesman.

. . .

Production Briefs

Full-scale production of liquid hydrogen is under way at Linde Co.'s new plant in Torrance, Calif., the company said last week. The plant, first privately owned and operated facility supplying liquid hydrogen commercially, was built to supply an estimated 10,000 lb. daily to the National Aeronautics & Space Administration. Its total production capacity is 13,000 lb. a day.

The world's largest self-contained aluminum extrusion press will be installed at Reynolds Metals Co.'s Bellwood Extrusion Plant near Richmond, Va., as part of an expansion under way there. The press will pack a 9-million-lb. "push" or 3,000 lb. per sq. in.

Delicate Job of Start-up



The man pictured below scanning dials in the control room while an assistant turns a few levers has a ticklish occupation: He starts atomic reactions, and he keeps an eye on them until he's certain everything is running smoothly.

Joseph A. Haaga's current job is watching over Commonwealth Edison Co.'s Dresden atomic power plant just going into operation near Joliet, Ill. He and his assistants make up one of two reactor start-up teams employed by General Electric's Atomic Power Equipment Dept. GE's "second team" is warming up a smaller atomic power plant in Frankfort, Germany. By splitting uranium atoms, these reactors will generate heat for electricity.

• **Customer Training**—GE is the only one of the three major atomic reactor makers in the U.S. that has start-up

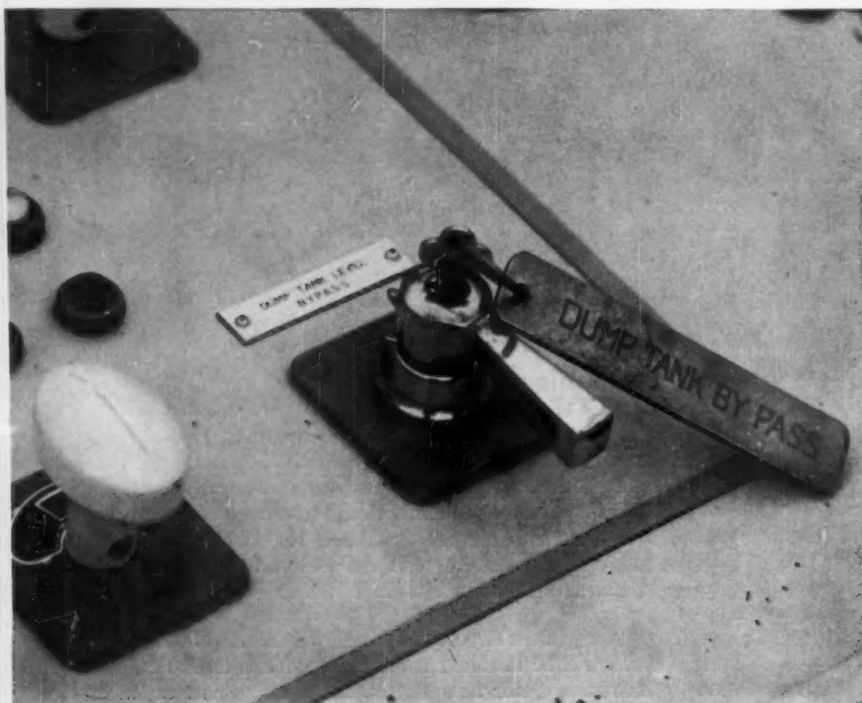
teams that it sends into its customers' plants. The other two—Westinghouse Electric Corp. and Atomics International Div. of North American Aviation, Inc.—train their customers' technical personnel to start up the plants.

The "starting up" period for an atomic power plant lasts until the reactor achieves a self-sustained chain reaction that will actually generate the power. This is known as going "critical." The preparation for this—fuel loading and other control work—may drag on for months, but the final job of controlling the reaction smoothly might take even longer.

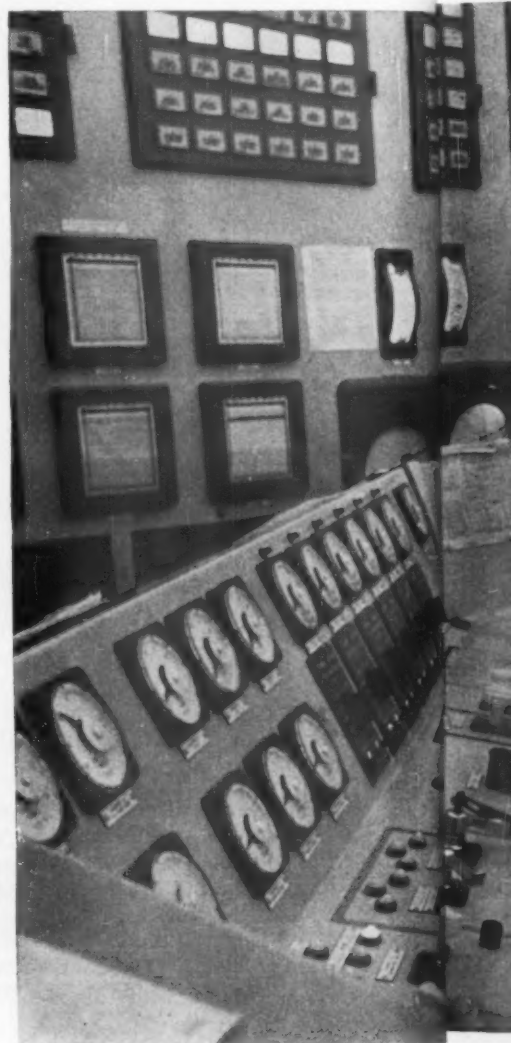
• **Close AEC Control**—Whether the reactor builder employs start-up teams or assigns technicians to train the customer's employees, the crew responsible for the start-up has to keep operating the plant until the Atomic En-

CONTROL board for atomic power reactor is unlocked and activated by Joseph Haaga, who supervised start-up.

CAREFUL watch is kept on dials by Haaga as a technician turns levels to start chain reaction in the reactor.



LEVERS for different operations controlling the reactor are kept locked when not in use. This precaution is taken to prevent reactor from being turned on accidentally.



f Starting an Atomic Power Plant

ergy Commission issues an operating license to the reactor owner. The individual members of the crew also must have operating licenses from AEC. By the time Commonwealth Edison receives its operating license late this month for the Dresden plant and takes over with its own crew, Haaga and his team will have been on the job more than a year.

• **Crew of Experts**—The General Electric crew consists of nine men. Haaga serves as plant superintendent. He is assisted by an operating superintendent, an instrumentation expert, a physicist, a power plant operator, and four other GE technicians.

"The instruments at a nuclear power plant are not simple," says Haaga. "We need an instruments specialist just to make sure the instruments work. When we start up the plant, we check every-

thing beforehand. And the instruments are the first thing we look at."

• **Why the Fuss**—There is a good reason for all this caution.

"You don't get to make mistakes in this business," Haaga explains. "One mistake and you have ruined millions of dollars worth of equipment."

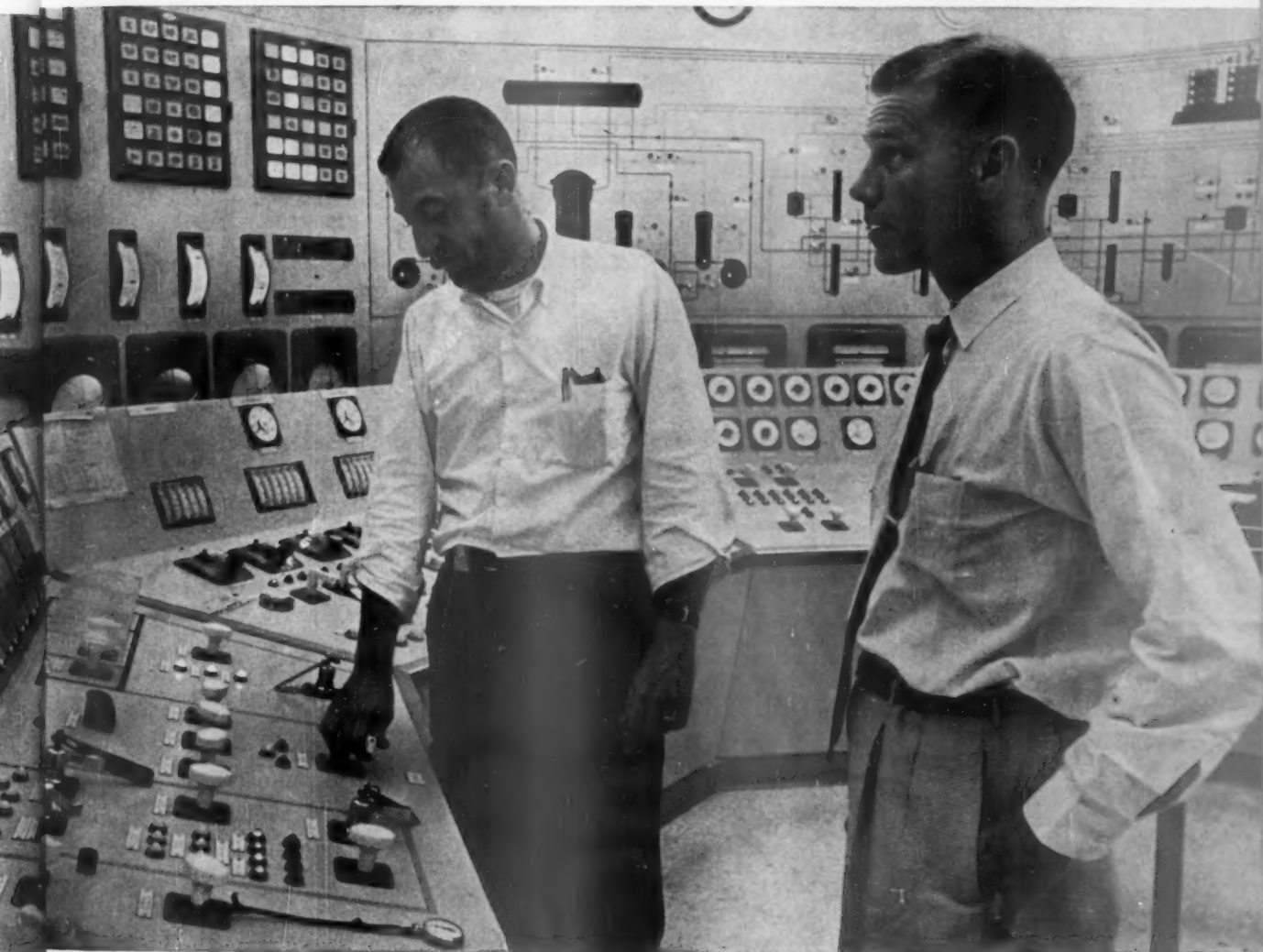
Haaga and his men work around the clock when the plant is in operation. Dresden went "critical" last month—months before it was expected to. Since then, GE has been running a series of tests on the equipment. The tests included high-temperature reactor runs, followed by examination of reactor components.

"So far, we have had no serious problems," Haaga says. "The thing is just like a rock. We haven't had trouble with the piping, which usually is the first place you have trouble."

• **Teething Pains**—Haaga has had minor problems with Dresden, however. Last November, the plant suddenly was shut down; it stayed that way for three weeks, while rumors buzzed about industry circles that all manner of fearful accidents had taken place at the plant.

The trouble turned out to be that pins connecting some control rods with their drive mechanisms had sheared off during test runs. But the faulty equipment was spotted and replaced before there was any damage to the reactor. GE had routinely reported this mishap to the Atomic Energy Commission. AEC, in turn, filed the notice without making its details public.

• **Crucial Period**—After testing the instrumentation and components, the first step in starting up a reactor is removal of the control rods, which absorb neu-





Which hand is fit for work?

When an executive compares work gloves he sees why employees can't do their best in old fashioned gloves that fit—and feel—like a bag. It is why Edmont revolutionized work glove design with a pattern that *fits the exact shape and joints of the hand*.

Look at the two gloves in the photo. Note how palm of left glove wrinkles when the fingers are slightly bent. Then look at the Edmont glove on the right hand. There are no wrinkles, although the fingers are bent the same. The difference is in the Edmont pattern.

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Edmont
JOB-FITTED GLOVES



REACTOR EXPERT Joseph Haaga is sent by General Electric to customers' plants to supervise start-up of equipment.

trons and thus prevent chain fission.

"There's about an hour when a man really suffers," Haaga says. This is the period when the starters very carefully have to check a maze of instruments, measuring heat, temperature, pressure, neutron flow, and other critical measurements. These change rapidly as the reactor approaches a chain reaction.

This is a period when it is extremely important to avoid mistakes. If the starters should lose control of the reactor, its core would get so hot fuel would melt, releasing highly radioactive materials in the plant.

When the pressure in the reactor reaches 1,000 psi. and 546F, saturated steam is released to the turbine and the plant begins generating electricity. Full capacity of the Dresden plant is 180,000 kw.

• **Early Experience**—Although he is a chemical engineer by training, Haaga worked during the war with Enrico Fermi at the University of Chicago, where he helped the Italian scientist with reactor experiments.

When du Pont arranged to build the Oak Ridge and Hanford Atomic plants, Haaga was assigned to these projects, and he started up or operated reactors.

After the war, General Electric took over the operation of the Hanford plant, with Haaga staying on as a GE employee. Later he was loaned to the AEC testing station at Arco, Idaho. There he worked on experimental models of several types of reactors. GE later transferred him to its Atomic Power Equipment Dept., where it was felt his experience made him a natural for starting up customers' plants and training their technicians to take over.

Dresden is the 14th reactor Haaga has started up. He also has helped start 17 others. **END**



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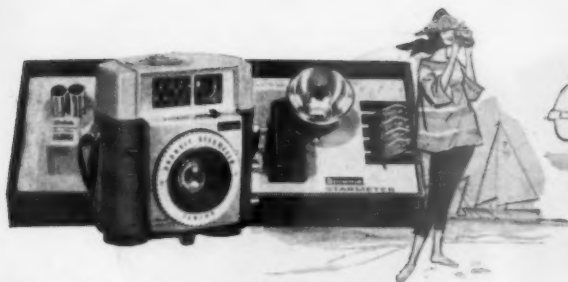
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STEP-BY-STEP teaching is key to machine method. Student studies short lesson, answers questions on it (on device at girl's right, here), with machine checking answers. In this case, at New York Institute of Technology, there is also a TV screen for teacher to give added information.



How Machines Do Teaching Job

Teaching machines are catching on in industry as well as classrooms, but they're unlikely to displace teachers.

At Redstone Arsenal in Alabama this week, a student in the Army's guided missile school sat tensely at a giant, flashing Nike-Hercules console, listening to prerecorded, step-by-step instructions that told him which knobs to twirl and what lights should be blinking. Finally came the last instruction, the student pushed the last button, and his make-believe missile went streaking off the pad.

At Hamilton College in Clinton, N. Y., logic students this year will be learning their syllogisms not from a textbook, but from a strip of microfilm reeling through a small box the size of a desk calculator. Automatically, a short paragraph will appear in one window of the box, the student will have a moment to digest it, then the machine will quiz him right away on what he has learned.

And along the huge, rambling assembly lines of Hughes Aircraft Co. in three Western cities, more than 500 machines are tutoring women on complex parts assembly with step-by-step instructions. Hughes claims the machines—dubbed Video-Sonics—have helped cut assembly rejects 70%.

• **Focus on Individual**—These are just a few examples of a new concept in training that is spreading through military, school, and industrial classrooms—

the use of "teaching" machines such as you see in the picture. Their role is partly as a substitute for the human teacher, and partly as a replacement for the textbook and such audio-visual aids as training films and phonograph records.

In some subject areas—where the material is purely factual and susceptible to simple organization—the machine even seems to do a better job than the old combination of book plus teacher, though even here it seems unlikely to displace the teacher completely.

I. How Can a Robot Teach?

What the machine does is to get more student participation in the business of learning. It makes the individual student, rather than a class, the focus of learning, and keeps him on his toes continually. Whether he's struggling with multiplication tables or a tricky assembly-line job, the theory is that the student will join in more, while learning, if he works with an individual, systematic program that challenges him every step of the way.

This can be done with a book as well as with a machine, but the machine has more glamor, and often can handle more kinds of material.

Teaching machines come in assorted

packages, but all have the same general approach: the use of quick, short bursts of information, each eliciting a response from the trainee. The promptness of the response—immediately following an instruction or piece of information—is what "reinforces" the student's comprehension and keeps him concentrating.

Simpler systems such as the Hughes Video-Sonic and Dictaphone Corp.'s AIMO—the machine used at Redstone—may give just step-by-step details on a single repair job or assembly. The student gets an instruction, carries it out, then another follows on its heels. He learns through response.

The course of instruction for this—the "program"—could come over earphones, on a small screen, or both ways. The step-by-step nature of this training is what sets the teaching machine concept off from the common run of audio-visual aids, taped lectures, and recordings long used for training.

• **Question and Answer**—For teaching subject matter rather than the mastery of an assembly process, the method becomes a bit more complicated—but learning through response is still the all-important key.

With different teaching machine systems, the response takes different forms. Some machines give the student his short, relatively painless dose of learning on microfilm or revolving rolls of paper, then fire a question at him to see if he understands. This question is

supposed to accomplish the same thing that an instruction does on one of the step-by-step assembly systems. It generates a response; in this case, the student answers a question.

The questions may be answered by making a multiple-choice selection on a keyboard or row of buttons, or by writing an answer on a roll of tape feeding through the unit. Once the question is answered, the machine immediately reveals the right answer for checking, and normally makes a record of the student's score. Later, the student gets a playback of the questions missed.

Besides telling the student whether he's right or not, a few machines let him know where he jumped the track if his answer is wrong—say, in the case of mathematics.

• **Controversy**—The nature of the machine's question—whether it should be multiple-choice or a question where the student actually writes out his answer—has touched off a fair-sized controversy. Dr. B. F. Skinner, a professor of psychology at Harvard University and the man responsible more than anyone else for the current interest in teaching machines, insists that learning does not come from just making a choice, as the student does with a multiple-choice type question.

"We want the student to recall rather than recognize, because recall is deeper than recognition," he says—and to get recall, the student must actually write out an answer. When this is done, "you're making a response, as well as seeing that the answer is right."

He adds that the multiple-choice question may introduce wrong information at the worst possible time. Since the incorrect answers have to be plausible, though wrong, the student who picks a wrong answer may remember it later as something he read, so that he finally believes it to be true.

Defenders of the multiple-choice approach—including R. W. Roop, vice-president of General Atronics Corp., which makes a teaching machine—claim the multiple-choice allows faster "reinforcement" of the student's knowledge. There is a delay, Roop says, in written responses, and this can interfere with learning.

• **Field Tests**—Teaching machines promise at the least to save wear and tear on teachers; and field tests indicate that there are certain areas of teaching where they may actually do a better job than regular instructors.

Take Hamilton College's logic course, for instance. Working last year just from "programed sheets," similar to a program you would get on a machine, the average grade of students in logic was lifted from 68 to 86. Class time was cut back from three hours a week to two, homework was eliminated, and more ground was covered.

And in a Roanoke, Va., public school last year, an eighth grade class, tutored on an automatic teaching machine, completed a full year's ninth grade algebra course in just half a year. The eighth grade scored a higher average than the ninth grade students taught the conventional way.

• **Limitations**—From these and other successful trials, teaching machines may sound like the hottest thing to hit classrooms since chalk and blackboard. But they have their limitations. They may be ideally suited for mathematics, languages, psychology, logic, and the like, but it would be difficult to mechanize instruction in art, English composition, and similar subjects relying heavily upon ideas.

Even in classrooms where teaching machines are used, they haven't replaced instructors to the extent many outsiders believe. All they've really done is replace homework.

Normally, teaching machines are set up in special study halls or regular classrooms; when he's free, the student uses them as preparation for class. This way, the regular class becomes more of a seminar than a lecture period. That's why few people in this business feel that teachers have anything to fear from machines.

Actually, machines merely relieve the instructor of the tedious, repetitive duties of drilling by rote, and the like. That frees the instructor to supply advanced training for the more brainy students, teach complicated subjects that may not lend themselves to teaching devices, and fill in "programed" courses with highlights that can't easily be fitted into the normal run of a course—for instance, teach the culture of a country while the machine covers its language.

II. Big Machines and Small

Depending upon how sophisticated a system he wants, a shopper in this market can buy a teaching machine for under \$50 or go all the way up to \$4,000 or \$5,000.

General Atronics has a nonelectrical Tutor system—soon to sell, the company claims, for \$50—that uses printed pages that turn one at a time as the student answers a question correctly. The questions are multiple-choice and are answered by pushing one of four buttons. Some battery-operated systems sell in the same range.

Then there's a cluster of more complicated machines in the \$200 range, such as Rheem Califorme Corp.'s Recall, which uses a written response and a program that feeds through on a roll of paper.

For the buyer who's shopping for something a little fancier, Western Design Div. of U.S. Industries, Inc., has

an AutoTutor, a desk-sized unit that goes for almost \$5,000. The AutoTutor uses a multiple-choice program on microfilm, with as many as 10,000 frames on a single roll. The frame that a student sees at any point depends on how he has answered the previous question. When the student slips up, the appropriate frame tells him where he made his mistake and he is retested on the point to be sure he has it right. In some cases, the machine will send him back to start a question over again.

USI has sold 18 of these to the Air Force, which is carrying on a controlled test at Keesler Air Force Base to train technicians. For the customer on a little tighter budget, USI also has a smaller, table-top version that sells for \$1,000.

Several zealous designers have spruced up their machines with television or motion picture hookups. Last week at a conference of the International Assn. of Universities in Mexico City, Williams Research Corp. demonstrated a new "teaching desk" that comes with a sound, motion picture set and a punched tape unit that produces a complete record of the student's answers.

The system designed by New York Institute of Technology, shown on page 111, is probably the ultimate in teaching machine finesse. Besides the program unit, it has television, a tape recorder or record player, earphones for audio instruction, and a microphone-like device that permits a student at his desk to talk with the instructor without disturbing the other students.

With a closed-circuit television camera, the instructor can put clues or diagrams on the student's screen to help him when he looks weak in certain areas of the lesson. The college library also has a camera. This is turned on when the instructor doesn't have a reference right at hand. The record player or tape recorder is used much the same way—it can be switched on by the instructor or student as an auxiliary tutoring aid.

In general, the systems come in every size and description.

• **Computer Systems**—Even computers are getting into the act. Systems Development Corp. has programed a Bendix G-15 general purpose computer to help out on teaching jobs. The computer controls a slide projector that flashes the program up on a screen. The student answers the questions by typing his choice of several possible answers on a typewriter-like keyboard. So far, the computer has only taught one student at a time, but SDC is working on a system to put as many as 18 on the machine at once.

A computer, obviously, wouldn't be economical for just a few courses in a small or even medium-sized school. It would have to be put to work teaching

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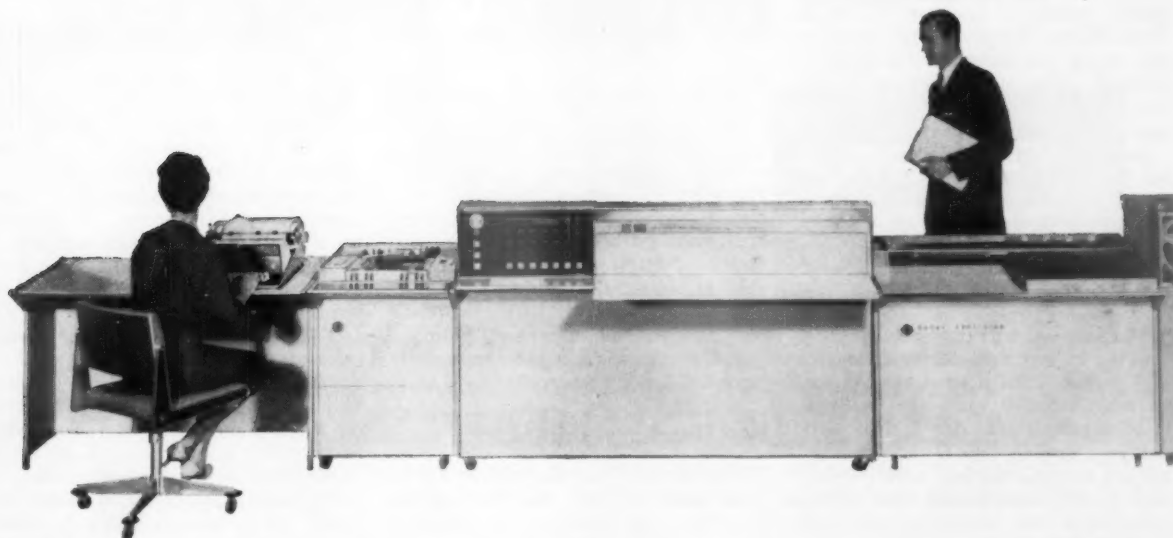
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a broad curriculum in a large school. Some researchers predict that someday many schools will have a centralized computer, loaded with all the programs taught in the school. It might help teach mathematics to one class, chemistry to another, English to a third, and so on.

Several other companies are looking into similar computer possibilities. Minneapolis-Honeywell Regulator Co. is doing some experimental work with an analog computer. On the West Coast, computers for education have long been a pet project of Dr. Simon Ramo, vice-president of Thompson Ramo Wooldridge. TRW's Intellectronics Div. is delving into just such an application.

• **Industrial Use**—Quite apart from these systems—which could be used broadly in military projects, education, and industry—there is a fairly solid market building up for purely industrial teaching machines. Many manufacturers are crying for skilled technical instructors to train field service representatives, computer programmers, salesmen, and clerical workers in paperwork routines or in electronic data processing.

USI plans to use its AutoTutor in industry as a marketing aid to help sell its TransfeRobot (BW—May 28'60, p110), a complex, automatic assembly system for use in various manufacturing operations. To get maximum benefit from the TransfeRobot, a USI application engineer would have to spend at least a week training a customer's foreman and methods men. Now, instead of tying up engineers, USI will just loan out an AutoTutor.

To train keyboard operators or key punch operators, Solartron Corp. in England has a system that measures the timing and accuracy of a student's response. The student sits at a keyboard exactly like the one he would operate on his job.

Another electronic keyboard trainer has been designed by USI's Robodyne Div. This machine will train post office employees to use the new, semiautomatic letter sorting machines.

III. Textbooks Like Machines

Machines are only part—though probably the biggest part—of the self-teaching pattern that's springing up in schools, industry, and the military. Next month, Doubleday & Co., partners in a project with U.S. Industries, will try to crack the big, lucrative textbook market, worth almost \$300-million a year, with four "scrambled-book" volumes or TutorTexts.

The books are scrambled in that the pages are not read consecutively. The student studies a paragraph or two, then a question on them with four possible

answers, each referring him to a different page. He chooses one; if he has the wrong answer, he is told as much on the page he turns to, and tries again. When he gets the right answer, he goes on to the next paragraph.

Essentially, these books are supposed to accomplish the same job as machines, at much less cost.

Doubleday's first four TutorTexts will cover contract bridge, "arithmetic" of computers, algebra, and electronics. If the books catch on, Doubleday expects to put out a new one each month next year.

• **Program Books**—In Philadelphia, General Atronics is publishing some "program" books that follow the multiple-choice pattern of the machines, with questions after each short section of text. Instead of going to another page for the answers, the student lifts one of several tabs on the same page until he gets the right one.

The "program book" is no simple workbook, General Atronics insists, but provides the same type of "reinforcement" or reward that a student experiences in answering correctly on a teaching machine.

Encyclopedia Britannica Films, a subsidiary of Encyclopedia Britannica, Inc., is busy on a similar program effort. It is preparing seven mathematics courses for at least 1,000 students in Roanoke (Va.) public schools, plans other courses if results are good. These would all be in loose-leaf notebooks of 1,000 pages or more, with answers on the same page as the question, concealed by lift-up tabs.

The EBF books, using a written response rather than multiple-choice technique, could also be used with machines; but EBF Pres. Maurice Mitchell says this would be done only when there's a satisfactory machine at around \$5.

• **Book vs. Machine**—Educators and manufacturers can't agree whether or not such a book does the job as well as a big, expensive piece of machinery. Harvard's Dr. Skinner insists that machines are necessary as motivation for students, that the machine, by the very nature of its sophistication, is better able to arouse the student's interest. On the other hand, EBF's Mitchell feels that machines aren't really necessary if the subject has been programmed logically and systematically.

IV. Teaching the Machines

The machine, like the teacher, has to know what to teach. And the business of programming—arranging the material to be taught by the machine—is generating as much interest as the machines themselves, if not more. That's because there just aren't many proven programs floating around.

Because the whole concept of machine teaching depends for its effectiveness largely upon the imagination and logical continuity of its programs—not on how the knobs twirl—some potential customers are a little wary as yet. If a school buys a teaching machine today, the faculty might well be stuck with the job of writing most of the programs. That means plenty of long, hard hours, and some very low-grade programs.

Preparing and testing a program is an expensive proposition—General Atronics estimates it costs \$20,000 for a full year's course, starting from scratch. So a lot of the programming is being done on college campuses, financed by foundations, college research grants, or the U. S. Office of Education, which has been encouraging the trend to automatic, self-teaching devices. Programmers are busy today at about a dozen colleges around the country.

Hamilton College at Clinton, N. Y., is working on a \$204,000 research project underwritten by a branch of the Ford Foundation. Hamilton Research Associates has been organized just to market the teaching machine programs or devices that might come out of these studies. HRA has both audio and visual teaching machines on the market. It plans to convert successful programs of the "written response" type to microfilm, distribute them, and pay royalties to the authors at the college.

• **Long History**—The roots for all this excitement about teaching machines reach back to the 1920s and 1930s, when Dr. Sidney Pressey at Ohio State University built a multiple-choice machine for classwork. But no one ever got really excited about it.

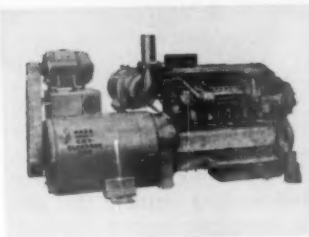
It was Harvard's Skinner who started things moving, in 1954, by garnering strong academic support for a "fill-the-blank" teaching machine. The difference between Skinner and Pressey was that Skinner had his answers ready for skeptics. To dramatize the value of the Skinner method or technique, as it became known, Skinner not only speeded up student comprehension but taught pigeons several skills, including Ping Pong, using food as the pigeons' "reward."

Today, Skinner-type machines, using the written response, are being made or designed by several manufacturers, and Skinner himself is busy in the programming end. Under his eye, Harvard has programmed a beginning math course, a vocabulary course for seventh graders, a college psychology course in human behavior. Now Skinner wants to break new ground: a program to teach feeble-minded children to do such things as make change with money. He also wants to tackle a program for teaching music to children. **END**

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Cashing In on the Intangibles

● Some oil companies, feeling a squeeze on profits, are going in for diversification.

● One motive: to hedge against future troubles in the oil business.

● A more immediate one: to use up tax deductions that can be higher, right now, than profits from oil operations.

With the U. S. oil industry roughing it through some of its darker days, the profits picture for most companies is not too bright. At home, an oversupply of crude and oil products has cut sharply into earnings. Abroad, tough competition threatens normally solid profits earned by U. S. companies overseas.

This helps explain the industry's new spurt toward diversification, which is quite different from its tendency toward merger brought about chiefly by marketing problems. To hedge against slack years, oil companies are getting into everything from potato chips to electronics to land development. Some examples:

- One of the giants, Standard Oil Co. of California, through Huntington Beach Co., in which it holds a 64% interest, has opened a motel-trailer park and restaurant just south of Long Beach, Cal.

- Hydrocarbon Chemicals, Inc., a small New Jersey Company specializing in secondary recovery of oil and gas, purchased Berkley Shore Estates in the same state, plans a \$36-million land development.

- Ada Oil, a Texas company, bought a chain of variety stores in Southeastern Texas.

There's another motive for diversification. In many cases, profits from outside ventures get a tax saving, due to the allowance given oil companies for "intangible drilling costs." For example, Sunset International Petroleum Corp., with headquarters in Los Angeles, is taking full advantage of the tax allowance to go into mass homebuilding on a big scale.

- **Two Kinds**—Tax laws governing oil drilling recognize two kinds of costs—tangible (actual pipes, pumps, and so on) and intangible (labor and other services that have no salvage value). On the average, 60% or more of the cost of a producing well is represented by intangible drilling costs. Tangible drilling costs must be capitalized, but intangible costs, on an irrevocable option,

can be treated much like any operating cost and deducted from profits, if any.

The theory behind this tax allowance is that, on an industry average, only one out of every nine wells pays off. With the tax allowance, this means about 60% of the cost of wells drilled can be deducted from profits from those wells that do actually pay off.

In practice, this is actually the case for a company that does a large amount of exploratory work and pretty much follows the normal industry pattern of exploration and development. However, in development companies with a good percentage of success or in a major company where development exceeds exploration, intangible write-offs can pile up at a pretty good clip.

- **Diversification**—Normally, these costs are deducted from income on successful wells. But the picture has changed over the past several years, as state regulatory bodies limit oil production to ease the industry's supply problems—in Texas, there's only an eight-day allowable. All this means that some companies find write-offs accumulating faster than they can be deducted from oil income.

Since the write-offs expire after a five-year period, many oil companies now feel it is financially foolhardy to let these write-offs go to waste, particularly when they can use them against profit-making ventures that also hedge the companies against a doubtful oil picture over the next few years.

Moreover, the tax benefits perpetuate themselves. For if a company continues to put its profits back into oil development, and is successful in drilling, it continues to build up intangible write-offs—at the rate of about 60% of the amount invested—as a shelter for future profits.

- **Land Development**—An example of this maneuvering with intangible drilling costs is Sunset International Petroleum's entry into the California land development business. After six months in its new venture, Sunset expects its

real estate profits to be more than double those from oil and gas.

In March, Sunset purchased Tavares Development Co. and its 4,000-acre San Carlos development within the city limits of San Diego. The deal involved a \$7.5-million exchange of Sunset stock—500,000 shares of common and 55,000 shares of preferred, convertible into a maximum of 748,000 shares of common over a 10-year period—for all the Tavares stock. Sunset plans an 8,000-home development.

In early May, Sunset bought 12,000 acres near Sacramento for some \$9-million and announced plans for "Sunset City"—an estimated \$1-billion project with 32,000 homes, plus shopping centers, industrial parks, and commercial development, scheduled to be built over the next 20 years.

Sunset says it can finance this \$1-billion project through cash flow from the San Carlos project, long-term borrowings, and interim bank financing. (Christiana Oil Corp. had a 90-day option to come in as a partner on "Sunset City," but bowed out.) There's also talk that Sunset may team up with a building company or two, which would be interested in the development as an outlet—and showcase—for building materials.

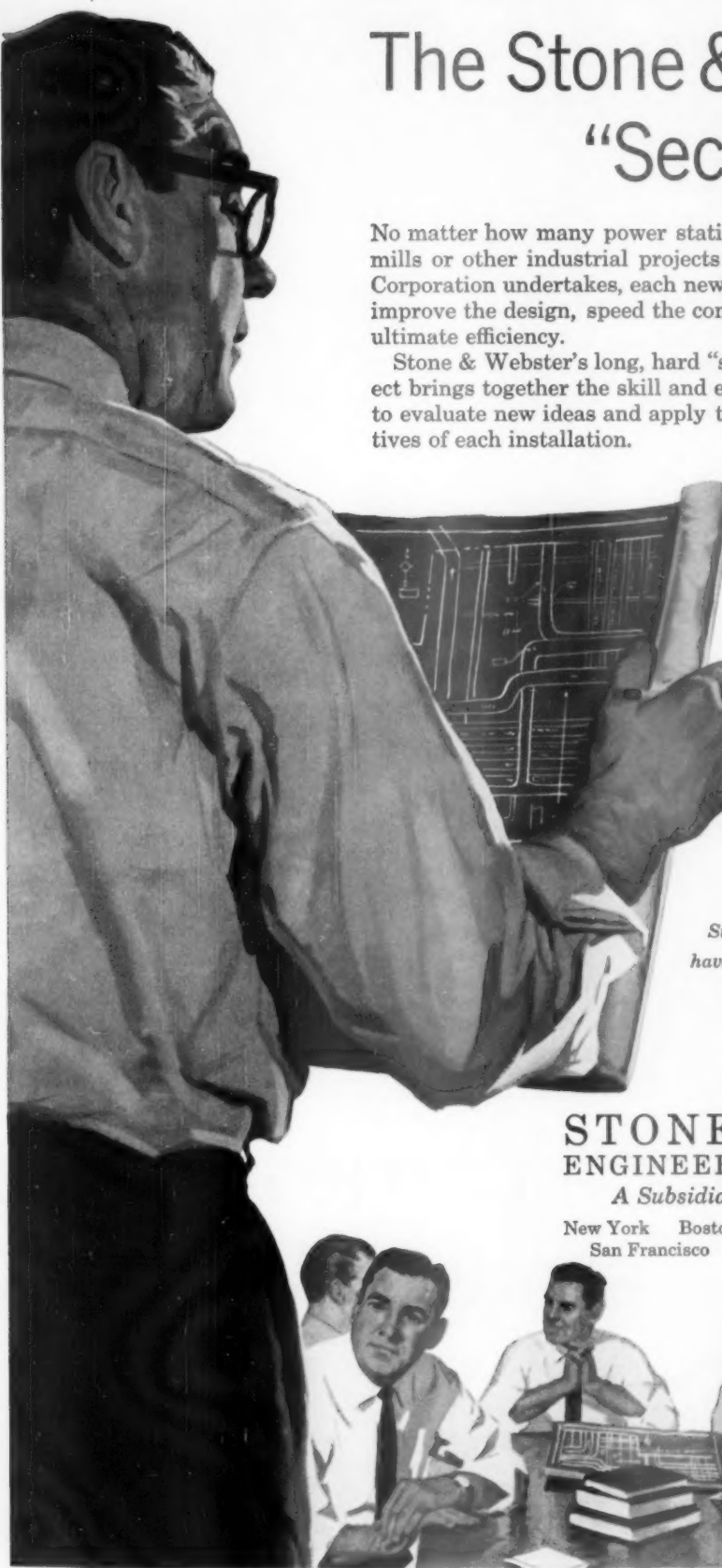
Sunset has another deal on the fire for 3,300 acres in a highly industrialized section of the Los Angeles basin. Negotiations should be complete within a month.

- **Matter of "Faith"**—Sunset's president, Morton A. Sterling, says the chief reason for Sunset's real estate moves is the company's "deep belief that California real estate is one of the best profit builders in the country today." Says Sterling: "If the population explosion and westward tilt continues, this investment is bound to yield a high profit."

But Sunset agrees that utilization of intangible write-offs was a big motive behind its land ventures.

Sunset is essentially a development company, not an exploratory one—that is, it spends relatively little money searching for oil and gas, preferring instead to buy proven properties. Sterling has pursued what he considers "an aggressive policy of acquisition in proven fields." As a result, Sunset's success in drilling oil wells has consistently exceeded 90%—way above the industry's average.

- **Accumulation**—This high degree of success has also resulted in Sunset's accumulating about \$3.5-million in intangible write-offs over the past several years. Since the company operates



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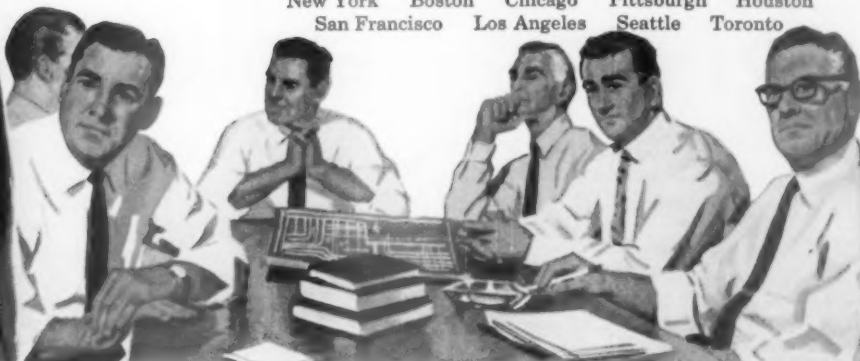


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■ *Report to business from B.F. Goodrich*

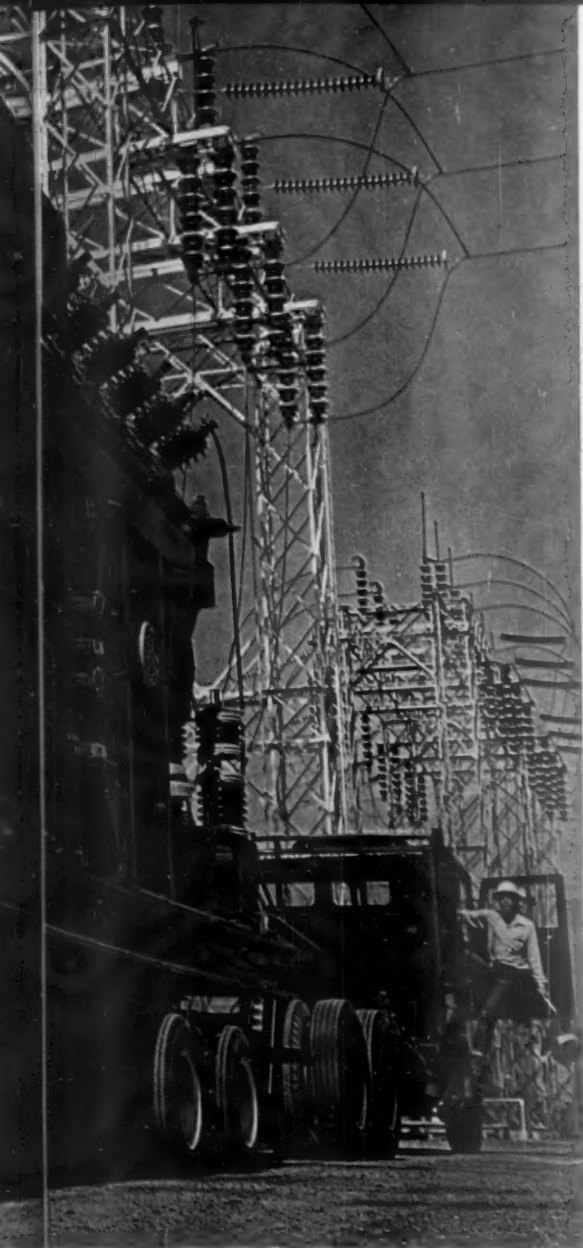


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BFG "TYPE 50" HOSE (shown above) is used to supply air pressure for pneumatic tools. PG&E crew is at work on one of steep San Francisco streets negotiated by old-fashioned cable cars, beloved by residents and tourists.

THIS PG&E WORKMAN repairing gas lines in bad weather is wearing a lightweight BFG work suit. Bright yellow color is for safety—men can be spotted from great distances. BFG Extratuf rubber boots with safety steel toes keep feet safe, dry.



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chiefly in the mid-continent U.S., whose states have tightened restrictions on the amount of oil that can be pumped, write-offs pile up faster than they can be used to offset oil income.

Last year, in fact, about \$200,000 in write-offs went down the drain. An additional \$460,000 in write-offs would have expired in the fiscal year ended Aug. 30, 1960, if Sunset hadn't moved into real estate.

From San Carlos, the company expects a profit of \$1-million in fiscal 1960; oil and gas properties should bring in another \$500,000. Enough offsets are available to make these profits tax-free, and 1961's projected \$2.5-million to \$3-million profit should also be mostly tax-free. Further, the company's cash flow should be stepped up; this should reach \$4-million by 1961, compared with \$2-million in 1959.

The increased cash flow should mean that Sunset could spend close to \$6-mil-

lion a year in oil development work by 1963; about 60% of that—the offset from intangible drilling costs—will be deductible, enough to leave the profits from real estate, at least, almost tax-free. Profits will continue to be virtually tax-free, depending on Sunset's accrued offsets and whatever it acquires in the future.

• **Objections**—Sunset's success may prompt other oil companies into diversification. But most oilmen maintain that any diversification moves will be for their own sake, not for the tax benefits that may be involved. In fact, many oilmen are upset about Sterling's actions. They feel he doesn't take the gambles in drilling that other companies do—gambles for which the oil companies historically have been helped by tax benefits. The industry is in a fight to retain its allowances, and it feels that moves by companies such as Sterling's muddy the waters.

Drive to Expand Long-Term Debt

Treasury goes all out for advance refunding offer boosting coupon on four 2½% World War II issues.

Treasury officials this week are putting on a hard sell for what they hope will mark a turning point in debt management—an advance refunding of maturing issues designed to expand markedly the amount of long-term bonds.

The refunding offer—frankly experimental—offers to exchange new long-term issues paying 3½% interest for four outstanding issues bearing 2½% coupons, which were sold during World War II. Subscriptions close Sept. 20.

Treasury officials feel that the advance refunding technique is a major step in rearranging the structure of the national debt. A great deal of planning preceded the announcement, but Secy. Robert B. Anderson and his debt manager, Under Secy. Julian B. Baird, still do not know what to expect. They are hoping that as much as \$5-billion will be placed in the new issues, which range from 20 to 38 years maturity. The exchange would be for bonds that otherwise would mature within the next seven to nine years.

• **Follow Up**—If the refunding offer is successful, officials may follow it with others of the same nature aimed chiefly at some \$25-billion worth of World War II issues. The current offer, however, includes only four issues totaling \$12.4-billion.

Investor reaction is the first hurdle. In New York's money market, government bond dealers report that many institutional holders of the 2½s—including insurance companies and mutual

savings banks—welcome the exchange because they want the additional income. If holders of the issues involved offer no more than \$2-billion worth in exchange, Anderson and Baird, who set great store by it, will be disappointed. They might even shelve the whole idea.

If something between \$3-billion and \$5-billion is offered, the Treasury will take it as a sign that the financial community approved of advance refunding and is ready to support it as a continuing policy.

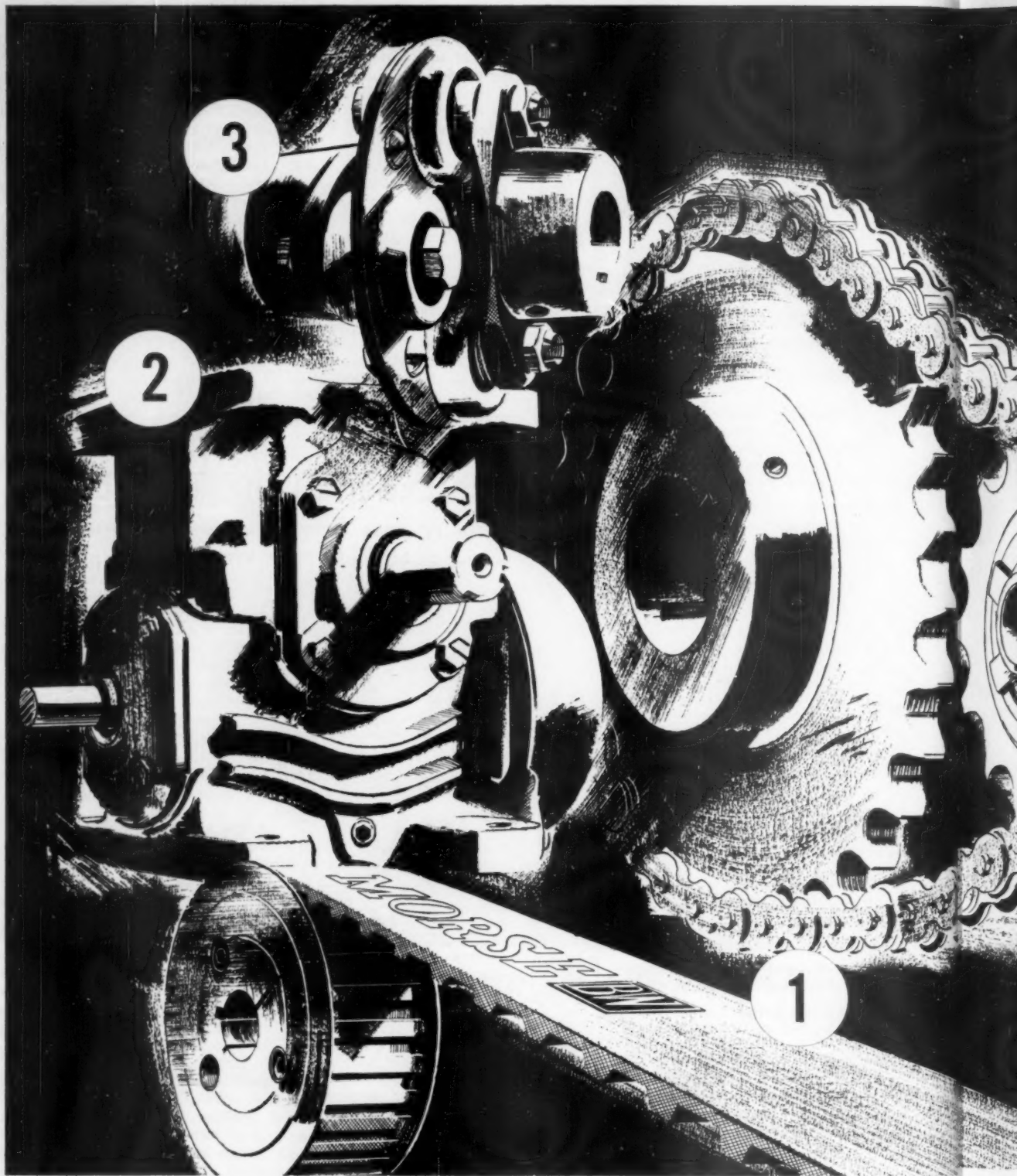
• **Political Angle**—Politics and the November elections may also intervene.

If the Democratic nominee, Sen. John F. Kennedy, wins the White House, this could be the last refunding offer. In the closing days of the recent session, Democratic critics of high interest rates attacked the idea as a gigantic giveaway. Because advance refunding involves an increase in interest, critics have assailed it as a raid on the Treasury; one called it robbery in broad daylight.

The Treasury is marshaling its big guns to give advance refunding a booming start—if the first test proves out.

Officials began with the preparation of a 14-page "white paper" on the theory and problems of advance refunding. This week a team of top officials headed by Baird held meetings in New York, Chicago, and San Francisco to explain technical points to financial experts. A newspaper advertising campaign was used to direct attention to the offer.

• **Lengthening**—If the response meets



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Treasury hopes, the exchange will add significantly to the amount of debt maturing 15 years or longer in the future. At present only \$8.5-billion out of a total marketable public debt of \$186-billion is in the over-15-year category. With this one refunding, officials hope the amount will jump to near \$13-billion. Anyone holding \$500 or more of the eligible 2½% bonds may offer to exchange them for one of the new issues.

The ground rules are fairly simple.

One of the old issues involved, originally sold in May, 1942, is callable after 1962 and matures in 1967. All of the \$2.1-billion worth of bonds in this issue could be exchanged for new 3½s maturing in 1980. But Treasury officials expect well under \$1-billion to be exchanged. The issue is now widely held by commercial banks that presumably will not be attracted by the 20-year life of the exchange issue.

• **Main Hope**—The Treasury's chief hope lies in the other three issues.

The three have a combined total of \$10.3-billion, but officials will not try to guess how much will be offered for exchange. They have put a stopper on this part of the offer, however. They will accept only up to \$4.5-billion worth for exchange. If offers exceed that limit, subscriptions will be subject to allotment.

Here are the three issues involved in this phase of the offer, and what they can be exchanged for:

• One issued Dec. 1, 1942, maturing in 1968 and callable after 1963, can be exchanged only for a 30-year 3½% bond.

• A second issue, dated April, 1943, maturing June 15, 1969, and callable after June 15, 1964 can be exchanged only for a 38-year 3½% bond.

• The third, issued in September, 1943, maturing Dec. 15, 1969, and callable after Dec. 15, 1964, is exchangeable for the same 38-year, 3½% bond.

• **Advantages**—To the investor, the advantage in the exchange is obvious—if he wants to keep his money in long-term issues at something like today's interest levels. If a holder of the 2½s Dec. 15, 1964-69, for example, decided to exchange, he can assure himself of 3½% interest for 38 years. If he does not make the exchange, and lets the bonds run out to maturity at 2½%, he would have to reinvest the face value of the bonds in 1969 at a return of 4.14% for the next 29 years, to equal the average return offered him today by the Treasury.

As an additional advantage, the exchange can be made without incurring a book loss for tax purposes, under terms of legislation adopted by Congress last year. For tax purposes, this means the investor can carry the new 3½% bonds on his books at the same

amount he is carrying the eligible 2½% bonds. Gain or loss will be taken into account only when the new bonds are sold or redeemed.

This is the real lure to many institutional investors, who bought the 2½s at par and would have to take a loss if they sold out now. The advance refunding enables them to increase their income without being forced to record a loss on their books. And it is the Treasury's hope that using this new technique will mean that many holders of long-term bonds will exchange them for new issues when their original holdings come close to maturity.

• **Commercial Banks**—A big chunk of the 2½s that can be exchanged are held by the commercial banks; in all, they hold about \$3.4-billion of the \$12.4-billion outstanding. The Treasury does not expect much of these to be exchanged, but they are hoping that mutual savings banks, with almost \$2-billion, and insurance companies, with just over \$2-billion, will be attracted.

Anderson and Baird are convinced that advance refunding is the most logical method of lengthening the average length of the debt in marketable securities—now down to an uncomfortable 4 years and 2 months. Baird, for one, believes even a Democratic Administration would have to come to the device eventually, or watch the whole debt structure move gradually into the one-to-five-year range.

Despite the advance in interest costs that is involved, Anderson and Baird argue that advance refunding will be cheaper to the Treasury over the long run than issuing the same amount of long-term bonds for cash, or waiting for the 2½s to reach maturity before refunding. An advance refunding, they point out, involves little market churning and no need to attract new cash savings and thus can be achieved at a lower interest cost than the traditional methods.

In fact, the Treasury's white paper implicitly admits that there is never a good time to sell new long-term debt. It points out that debt management policy should "take account of cyclical considerations—pressing long-term securities on the market to absorb funds when the economy is expanding and, conversely, issuing short-term securities attractive to banks so as to increase liquidity in a period of recession. Yet, "in practice it has proved both impractical and undesirable to adhere strictly to this view. . . ."

Treasury officials also stress that advance refunding—because it largely involves money that already has been committed to long-term securities—should have a minimum impact on the current supply of funds for such long-term lending needs as mortgages and bonds for civil works. **END**



A slightly exaggerated portrayal of Paris branch Vice President James J. Thackara with E. Russell Eggers, European Common Market and European Free Trade Association Consultant, arriving in Brussels for customer counseling

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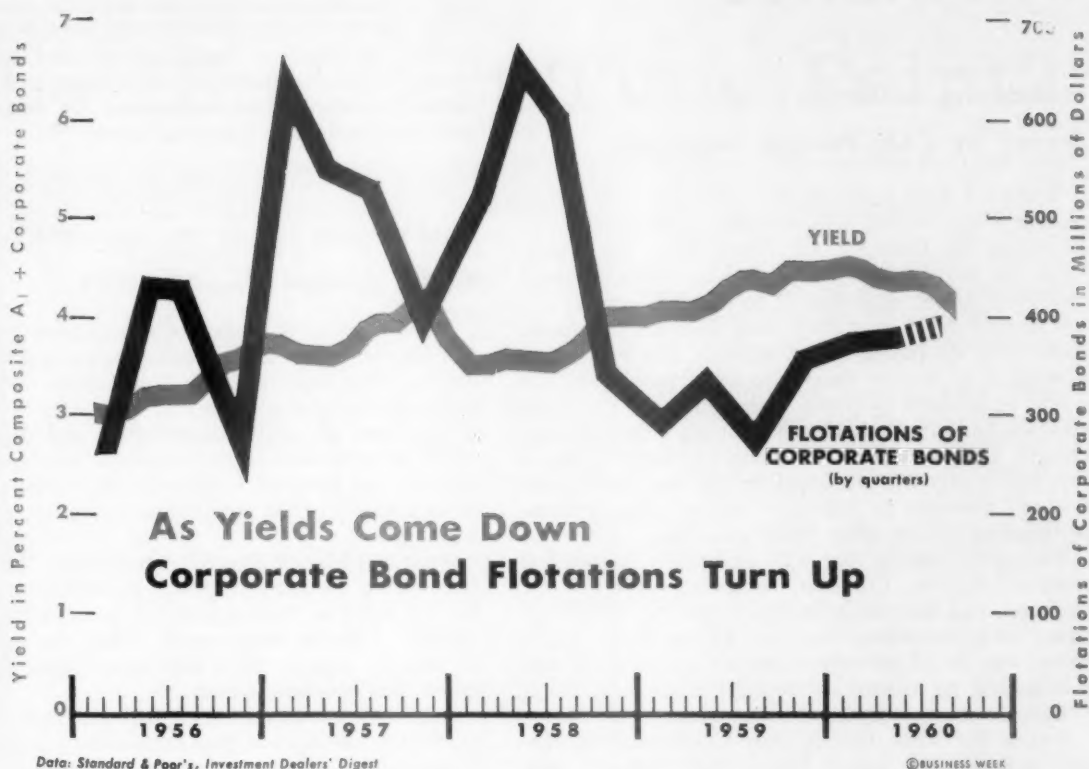
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But No Financing Spree Is Likely

With the easing of credit by the Federal Reserve, long-term interest rates have slipped a bit and corporate bond flotations have picked up (chart). In August, new corporate bond issues jumped to \$551-million—\$119-million above the July total, and the second highest of any month this year.

This is what the money managers have been betting on. They feel that their shift to easy money should bring a big rise in corporate financing. But most underwriters and corporate money men don't think that the August upturn necessarily indicates a further big boost in business borrowing. As one bond specialist put it: "All things being equal, when money becomes easier, there is more floating of corporate debt. But all things seldom are. If business doesn't pick up, companies could slow down their spending and borrow less."

Corporate bond offerings slated for the next few months are somewhat larger than actual financings in the early part of the year when money was tight. But dealers still rank the \$1.6-billion visible supply of announced offerings, both scheduled and undated, as merely "normal," well below the big corporate financing spree during the easy money period of 1957-58.

• **Who Is Borrowing**—Since the Fed's easing policy became truly active, the bulk of new borrowing has been done by utilities, which are always quick in their reactions to changes in the credit picture. But there has been a sprinkling of non-utility offerings—notably Republic Steel's \$125-million in 25-year bonds and General Motors Acceptance Corp.'s \$150-million in 22-year bonds. Youngstown Sheet & Tube also will soon market a \$60-million bond issue, Continental Can a \$30-million issue.

• **Why They Borrow**—In general, corporations go to the market for funds for three major reasons:

- They need money for working capital or for definite expansion plans.

- Money is sufficiently cheap to make attractive the forward financing or refunding of outstanding debt that carries high coupons.

- The companies think the yield trend is about to turn higher, and want to borrow before costs go up.

Most of the recent and proposed financing still falls in the first category. Utilities, which are assured of a return on their capital, are constant borrowers. For the most part they are borrowing now because they have to pay for their expansion programs. Some

have stepped up their borrowing with the decline in yields, but most say they would be coming to market whatever the cost. (Underwriters say the pickup in tax-exempt offerings, which had been lagging earlier this year, is only partly the result of lower interest rates.)

Most of the industrial firms borrowing funds now say that definite needs, rather than the market, provided the main reason for their decision. According to Continental Can's executive vice-president for finance, Lawrence Wilkinson: "During the past few years we spent so much money on expansion we were out of dough. We had not picked a date, though, waiting to see what the market would do. When it moved down, we moved in, but we probably would have gone ahead anyway if yields hadn't come down."

• **Prospect**—The prospect is that corporate refunding operations also will not reach major proportions, simply because most companies that borrowed when money was tight and interest rates high were forced to attach no-call provisions.

Nevertheless, there may be a fairly sizable increase in debt offerings if yields turn down further—or if business picks up. **END**

In Finance

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Broadening of Airline Credit Cards Barred by CAB, Pending Arguments

The Civil Aeronautics Board is taking a new look at a move by the airlines to expand their credit card system, known as the Universal Air Travel Plan. Tentatively, CAB has ruled against the expansion, but it is giving interested parties until Sept. 22 to file their views.

Universal Air Travel cards were designed to provide credit only for buying airline tickets. But the airlines now want to convert them into all-purpose cards that would be honored by hotels, restaurants, and car rental agencies, and provide holders with single billing on their charges. CAB says there is nothing inherently wrong in this, but it says it is disturbed by the Air Traffic Conference's attempts to discourage airline members from participating in any other credit card plan.

The agency charges that ATC apparently has blocked American Express Co. from competing in credit for air travel, and that other single billing cards have been hampered by the airlines. As the CAB sees it, the ATC's moves may be an attempt to restrict competition, and it is holding up its final say on UAT cards until this is settled.

Among the trunk carriers, only Continental, Northeast, and Western Airlines honor either Hilton's Carte Blanche or Diners' Club cards in the sale of air tickets.

• • •

Japan's Free Yen Accounts Attract Interest-Hungry Dollars From Europe

A significant portion of the money flowing into London because of high interest rates (BW—Sep. 3'60, p44) is only stopping over on its way to Japan—and to even higher returns on funds.

On July 1, the Japanese allowed the establishment of free yen accounts, which permit interest on foreign time deposits to be convertible into other currencies. Previously, yen accounts were blocked, and non-residents could not convert interest earned on their deposits. Now the new free yen accounts have established ceilings on interest rates payable on non-resident funds ranging from a maximum of 6% a year for one-year time deposits to 5.5% for six-month money and 4.3% for three-month funds.

Since the free yen accounts have been set up, these high interest rates offered by Japanese banks have attracted a substantial influx of Eurodollars—dollars that had been deposited in European banks—as well as funds from Southeast Asia and the U.S.

According to the Bank of Japan, non-resident free yen accounts totaled about \$128 million as of Aug. 31. Private bankers estimate that holdings not yet reported would bring the total close to \$200-million.

The Bank of Japan estimates about 60%-to-80% of transfers into free yen accounts are Eurodollars deposited in London with six branches of Japanese commercial

banks. These branches have offered higher interest on the deposits than those permitted in Japan itself because the ceiling does not apply outside Japan.

The Bank of Japan has not made any formal steps to restrict the inflow of funds such as the Germans and Swiss have taken. But it has asked Japanese commercial banks and their London branches to "refrain" from soliciting funds from European banks.

• • •

Bookkeeping Hassle on Tax Deferrals Again Matches SEC, Big Utility

The Securities & Exchange Commission and American Electric Power Co. are locked again in a hassle over accounting procedures. The issue centers on where to enter reserves that utilities may set up for tax deferrals arising from accelerated amortization and depreciation. These deferrals arise when companies use a depreciation formula that produces larger write-offs in the early years of an asset's life than straight-line accounting procedures would give.

American Electric Power contends that the accumulated credits are part of a utility's equity base, and should be designated as "earned surplus" or a part of "equity capital." This, in effect, would inflate the equity base of utilities, improve their debt-equity ratio, and so increase their borrowing power.

But SEC last March ruled that the reserves should not be treated that way, that accumulated credits should be treated in the income statement either (1) as a provision for future taxes, or (2) as additional depreciation—with appropriate notes in the balance sheet.

Now an American Electric Power subsidiary, Kentucky Electric Power, has brought matters to a boil again. In registering a new \$40-million debenture issue, Kentucky Electric Power has filed documents that violate SEC's new procedures. So SEC has decided to review the whole accounting issue, and set hearings for next month.

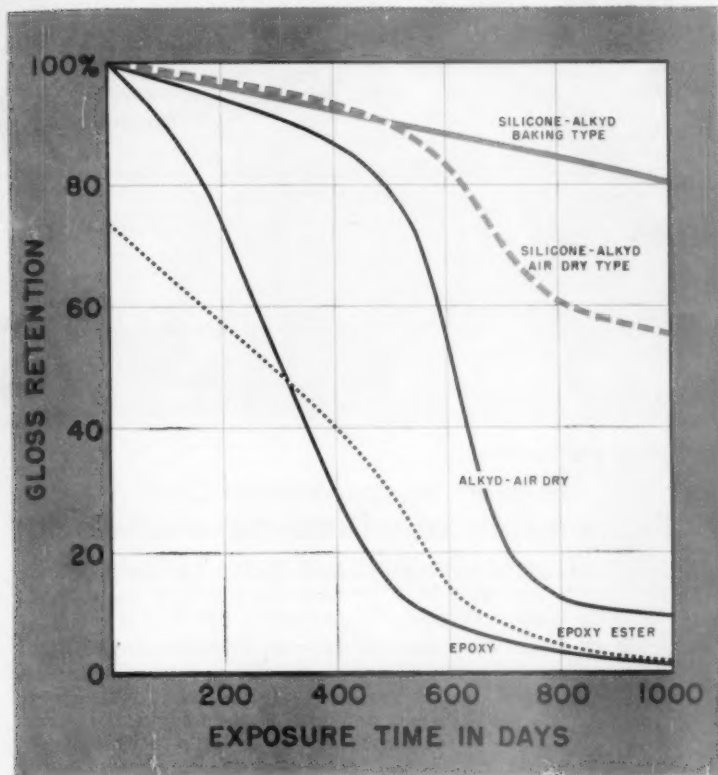
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Fed Appeal Rejected in Bank Merger Case, But New Law Gives Power Court Denied

After 26 months of litigation, the Old Kent bank merger case appears closed. A U.S. District Court in Washington rejected a petition by the Federal Reserve Board to review a lower court decision revoking the Fed's prohibition on Old Kent Bank & Trust Co. of Grand Rapids from operating the branches of Peoples National Bank, with which Old Kent merged in 1958 (BW—Sep. 20'58, p58).

In its original ruling, the Fed said banking competition in Grand Rapids would be adversely affected. Old Kent challenged the Fed's action. It said the Fed's power to oppose branches of member banks was limited to new branches, that the Fed was encroaching on state banking functions. Last May, a U.S. Court of Appeals upheld this view and the latest decision puts what may be the final touch on Old Kent's victory. For an appeal to the Supreme Court seems unlikely, in light of the new bank merger law that gives the Fed just about the same authority the court said it lacked last May.

Why Hire Part-Time Paint?



Silicone-based paints last longer, cost less

It makes little sense to keep an employee that doesn't have the qualifications or capacity to do the job. Yet this is, in effect, exactly what many plants do when they use maintenance paints that break down shortly after application. To be sure, a coat of paint doesn't punch a time clock or demand fringe benefits, but it does have to work twenty-four hours a day. Thus, its cost of "employment" warrants considerable attention.

In practice, it's the interval *between* paintings that really determines your cost. The longer a paint film lasts, the less it costs to use—in time, labor and material. But perhaps most important are the costs that can't be calculated—for example, production lost when facilities must be shut-down for repainting.

Here's how you can save. By reducing labor costs and production down-time, paints based on Dow Corning Silicones make important contributions to your profit picture. Silicone paints, of course, take just as long to apply as do conventional paints. And like other high quality products, they are premium priced. But once they're on, they *stay* on, and on, and on, and then your savings start to pile up.

What makes silicone-based paints the good investment they prove to be? The simple answer is—greater resistance to the many enemies that maintenance coatings must face day and night. Included on this list are heat, cold, moisture, rust, corrosion, salt spray, ozone and the many other paint-killers that assault plants and equipment.

Hot spots no trouble now. When exposed to heat that, on some stacks and mufflers, soars to 1000 F, ordinary paints crack, peel and burn away. Moisture gets in. Rust, corrosion and trouble follow fast. But not so when you're using paints made with Dow Corning silicone resins. They are at their best when the "heat's on".

Some equipment is hot on one end and cold on the other . . . silicone paints hold tight on *both* ends. Film, gloss and color retention are excellent as well. There's no unsightly chalking, fading or streaking.

Concerning color: silicone-based coatings are now available in almost any color desired. Hot-running equipment and piping can be color-coded for increased safety and efficiency. And as some refineries have learned, a plant made more colorful and attractive helps improve public relations.

Best for your products, too. Silicone paints will work just as hard for you on the products you sell. Product finishes based on silicones keep color and gloss without fading or chipping just as their maintenance-coating fellows do. They stand up longer to hard wear, heat and abuse . . . improve customer satisfaction.

It all adds up to this: paint maintenance is probably costing you a lot more than it should. In many cases, this cost can be cut in half by using silicone paints that last up to 100% longer. So every time you think about paint—for maintenance or products—consider paints based on Dow Corning Silicones. Most leading paint manufacturers now offer these longer lasting coatings . . . coatings that really protect valuable plants and equipment.

Send for your copy of "Why Silicone-Based Paints Mean Less Maintenance". Write Dept. 1609.



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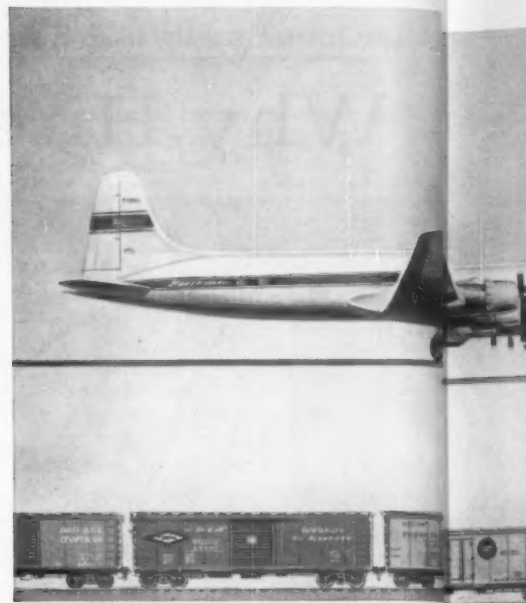
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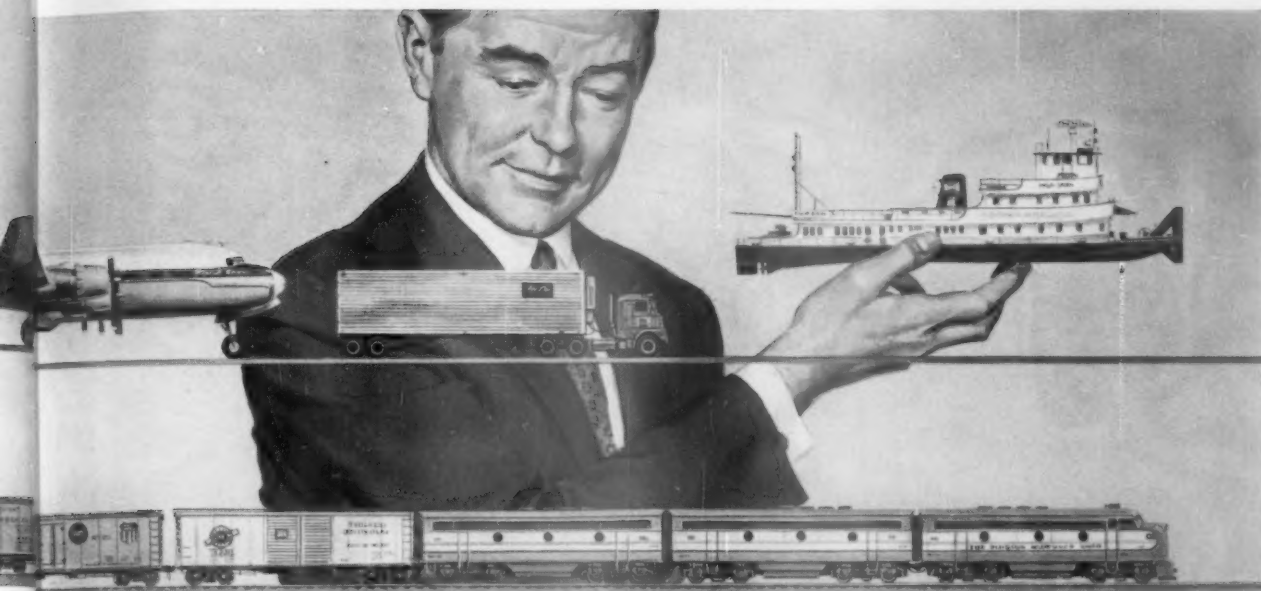


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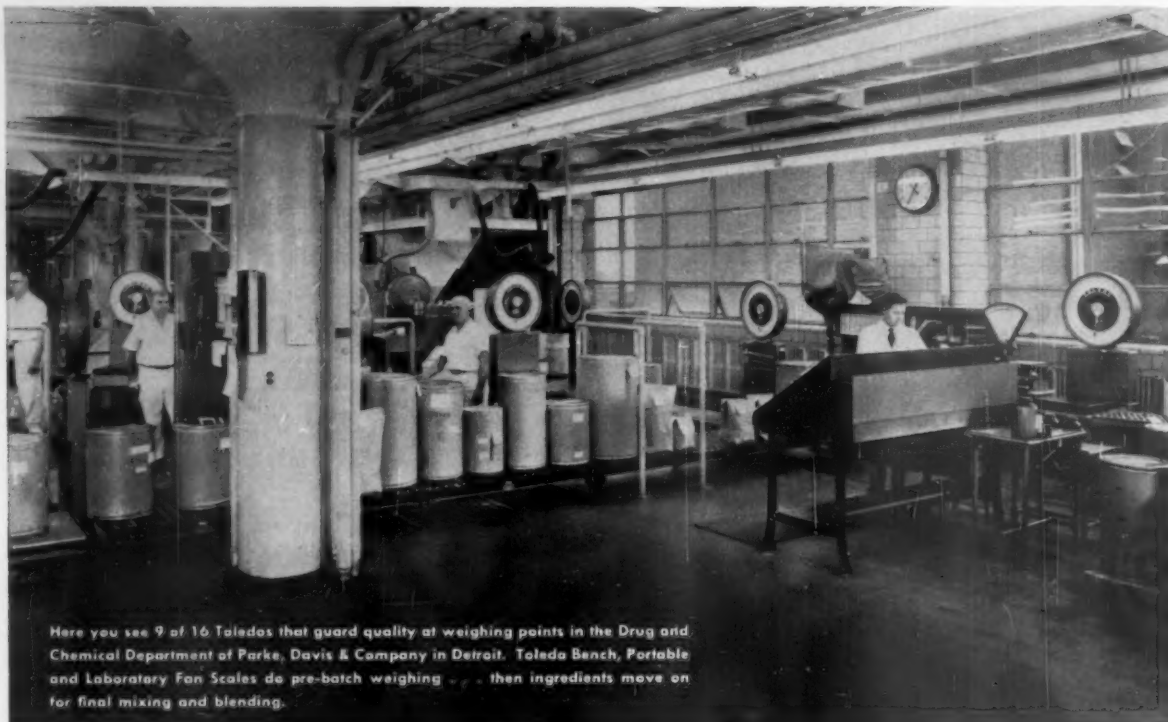
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In Labor

Seafarers International Beats Teamsters In Election Among Great Lakes Sailors

The International Brotherhood of Teamsters this month failed in a major effort to organize seamen on the Great Lakes. Although IBT Pres. James R. Hoffa took part in the campaign, his union was beaten by the Seafarers International Union by a vote of 277 to 171. In the NLRB election, the SIU won the right to represent 550 unlicensed sailors of Boland & Cornelius' 19-ship fleet.

The SIU claimed after the victory that the outcome would keep the Teamsters from gaining a foothold on Great Lakes freighters.

Factory Workers Can Buy 40% More Today Than in 1947, Labor Dept. Survey Shows

A U.S. Labor Dept. survey disclosed this week that the average factory worker can buy 40% more with his earnings today than he did in 1947. The sharp rise in production-worker paychecks in the past 12 years boosted wages by 80%. But due to the higher cost of living, the increase in purchasing power is half that figure.

The survey, by Labor Dept. economists Irving Stern and Herman Travis, shows that 1959 factory pay ranged from a top \$117.38 in the petroleum industry to \$55.36 in apparel, the lowest on the scale.

Pattern for New England Trucking Seen As Two Groups Sign with Teamsters

Eastern truckers in two associations this week reached a new two-year agreement with the International Brotherhood of Teamsters and averted a threatened strike. Terms are expected to be a pattern in trucking industry negotiations throughout the New England area.

The agreement covers 50,000 over-the-road drivers employed by 1,500 companies between Poughkeepsie, N. Y., and Trenton, N. J. Union spokesmen said that "for the first time, equalization of pay, working conditions, pensions, and welfare benefits" are provided. Employers said their additional costs can't be determined yet, but that "undoubtedly . . . an increase in trucking rates" will be necessary.

The settlement was delayed by Teamsters demands for contract language to safeguard the union against possible litigation under the "hot cargo" clause of the Landrum-Griffin Act. The clause bars unions from engaging in secondary boycotts and agreements not to handle goods involved in labor disputes. Teamsters attorneys have worked out a standard clause—now written into pacts with employers in most states—protecting the union and its members against civil or criminal suits if they refuse to cross picket lines of other unions.

MORE NEWS ABOUT LABOR ON:

- P. 136—Union meetings air job security issue.
- P. 141—All-out union drive in Hawaii.
- P. 144—Busiest railway rolls again.
- P. 146—Teamsters roll ahead in drive.

Some of the New York-New Jersey employers balked initially at accepting language changes intended, they said, to circumvent the Landrum-Griffin Act.

Steelworkers Start Off Retirement With Sizable Lump-Sum Bonus

Contracts signed in January by basic steel producers and the United Steelworkers contain provisions for lump-sum payments on retirement to help in the sometimes costly adjustment to life on pensions. Since the first of the year, others have adopted similar plans.

Generally, the lump-sum payment is equal to 13 weeks of regular pay and includes vacation pay due for the retirement year. The worker who receives a lump-sum payment doesn't begin getting his monthly pension for three months—until after the prepaid 13 weeks.

Here's what this can amount to: Charles Wulff of Chicago, employed 26 years and 11 months by U.S. Steel, retired recently as first inspector in the South Chicago Works. His "transition" check was for \$2,463.73.

Pilots Union to Boycott 21 Airports In Move Against Southern Airways

The Air Line Pilots Assn. moved this week to bring new pressure against Southern Airways, a feeder line that is maintaining service despite an ALPA strike (BW-Jul. 23'60,p74). Clarence Sayen, president of the pilots' union, called on members flying for other companies to begin boycotting 21 airports serviced by Southern.

Sayen said the union plans to shut down the airports three at a time, at three-day intervals, beginning with those of Huntsville, Ala., Baton Rouge, La., and Dothan, Ala., the latter part of this week. Officials of airlines not involved in the Southern-ALPA dispute said an injunction would be sought against the boycott.

Meanwhile, ALPA—embroiled on many fronts (BW-Sep. 10'60,p148)—may face an added problem of an internal political fight. James McCauley Landis of New York, an attorney and former chairman of the Civil Aeronautics Board, announced that he intends to run against Sayen for the ALPA presidency.

Although not a member of ALPA, Landis said he was asked to become a candidate by two dissident pilot groups. Under the union constitution, ALPA's board of directors (300 in number) may by two-third vote declare anyone not an active member eligible to be president.



AT MACHINISTS' convention in St. Louis, Donald MacDonald, Secy.-Treas. of the Canadian Labor Congress, urged stronger efforts to meet the threat of high unemployment.

Union Meetings Air Job Security Issue

A few days ago, some 1,500 delegates attending the International Assn. of Machinists convention in St. Louis (picture) heard Donald MacDonald, secretary-treasurer of the Canadian Labor Congress, call for a stronger, more dedicated labor movement. It was a rousing address on a theme common to a half-dozen or more major labor conventions this month.

MacDonald expressed concern over high Canadian unemployment and the threat of a troubled winter. Delegates had heard similar expressions of concern about the job outlook in this country.

The IAM convention focused on economic problems. The Machinists delegates were worried particularly about:

- Job security, the threat of in-

creasing unemployment because of today's trend toward automation.

- Union strength and prestige, threatened by declines in the numbers employed in the highly unionized ranks of industrial workers.

- New labor legislation, such as the Landrum-Griffin Act of 1959, considered "anti-union" by IAM because it imposes new curbs on labor activities. IAM criticized both political parties, said that "perhaps" a Labor Party will develop "if the two major parties continue to fail to service the majority of our people—if we in labor continue to be given only a choice of the lesser of two evils."

IAM met with its membership down nearly 100,000 from the million it reported in 1957. Union officers blamed

"the tremendous shift from blue-collar to white-collar occupations."

The union took steps toward new organizing techniques, aimed at signing up more than 200,000 technical and white-collar workers in IAM plants.

It plans to concentrate, too, on agreements that will offset the "hardship" of automation on workers. The union wants eight "safeguards":

Advanced notice of major technological changes; companywide job transfer rights and company-paid moving allowances; job training at full pay; continued higher rates if workers are downgraded; rate reviews when skill requirements are raised or when automation imposes higher job demands; early retirements; continued insurance and other welfare benefits during layoffs; the "equitable distribution" of gains in time and money whenever automation speeds production.

The leftwing Mine, Mill & Smelter Workers met in Denver a week ago. Like IAM, it termed the fight for jobs and more security for workers "the major issue facing the American labor movement today." MMSW, not involved in industrywide contract negotiations this year, called on all labor to support a campaign for a shorter work week, company-financed programs for relocating and retraining displaced workers, higher pensions and earlier retirement, and other steps toward "greater job security" for workers.

This week, the International Union of Electrical Workers and the United Electrical Workers took up the security fight, in Miami Beach and Atlantic City respectively. UE, particularly, demanded an all-labor fight for a shorter work week as "the only realistic measure which will create new jobs."

IUE's convention in Florida was preoccupied with the problems of virtually deadlocked bargaining between IUE and allied unions and two major employers, General Electric and Westinghouse. Both have made "security" proposals to the unions that IUE and other unions say are "totally inadequate."

IUE's Pres. James B. Carey attacked the company proposals with a militance designed to muster support against the offers. He holds a troubled position. His union is vulnerable if there is either a "soft" settlement or an unpopular strike.

In the weeks ahead, the United Rubber Workers will meet in St. Louis, forced to elect a new president to succeed retiring Leland S. Buckmaster. The United Steelworkers will convene in Atlantic City, with Pres. David J. McDonald faced again with a rebellious bloc. And the International Chemical Workers will meet in Atlantic City with a problem of extending its membership in a still sparsely unionized industry. **END**



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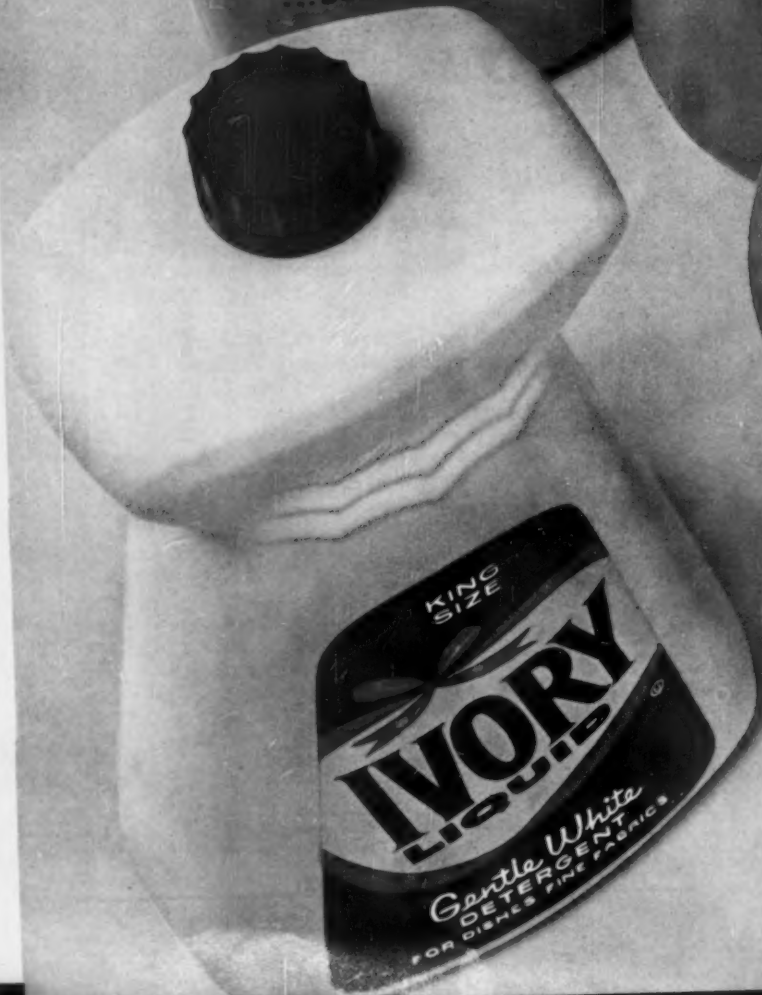
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All-Out Union Drive in Hawaii

The island's labor leaders are competing among one another to sign up the 160,000 unorganized workers.

Hawaii, post-World War II hotbed of labor strife, is relatively quiet today. Leaders who directed the pitched strike battles of the past are now concerned more with organizing among the 160,000 or more of the islands' 210,000 eligible workers who aren't in unions.

The International Longshoremen's & Warehousemen's Union, Hawaii's strongest labor organization, is conducting a broad campaign with the slogan: "Organize the Unorganized; Make Hawaii a Union State." It is working closely with the International Brotherhood of Teamsters.

AFL-CIO unions are in the thick of the fight, competing—so far not very successfully—against the independents. The federation's principal gains have been in the building trades, where it hopes for substantial increases.

- **Peaceful Now**—At the start of 1960, Jack W. Hall, ILWU regional director and a controversial labor figure, predicted that 1960 would be a year of labor peace for Hawaii. It has been. Recently, on Labor Day, Hall extended the prediction into 1961, when sugar contracts are due to expire.

Bargaining is still tough, but more contracts are being negotiated without strikes:

- The pineapple industry and ILWU negotiated a one-year extension of their contract (from 1961 to 1962) long before reopening time arrived.

- The Hawaii General Contractors Assn. signed a three-year contract with the four basic building trades unions of AFL-CIO. This covers the whole industry for the first time, and labor expects it will bring thousands of new members into the union through its modified union-shop clause.

- Stevedore companies and ILWU this summer wound up 15 months of negotiations with a contract that gives liberal benefits to those laid off or partially idled because of the mechanization of docks. Both sides say the agreement, which goes beyond an ILWU plan on the West Coast, may be a pace-maker for the mainland U. S.

- Instead of recriminations, expressions of mutual respect are usual now in statements by employers and leaders of the ILWU or AFL-CIO.

Many reasons are offered for the more peaceful atmosphere. Some say it's a maturity in the labor-management relationship on the islands; others that it is a result of realism on both sides—a



ILWU MEMBERS parade down Waikiki's main street on Labor Day, carrying banners that announce the dock union's goal to bring Hawaii's unorganized workers into union field.



LT. GOV. KEALOHA addresses a Labor Day rally on Maui sponsored by ILWU, which is Hawaii's strongest labor organization. Overhead is the union's campaign slogan.



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mutual appreciation of each other's strength. Some credit the introduction of mainland U.S. bargaining patterns. Skeptical observers say the tractability is "just a phase" not likely to last.

• **The Way It's Been**—During the late 1940s and early 1950s, Hawaiian employers and unions (particularly the ILWU headed by leftist Harry Bridges) had some classic Donnybrooks. Public feeling was whipped at times to a pitch that made public officials fear for the maintenance of civil order. Unions were accused often of undertaking to ruin the economy, employers of attempting to break unions—regardless of the cost.

The power struggles occurred in Hawaii's three basic economic props—the sugar, pineapple, and stevedore industries, all organized by ILWU. Over a decade or so, each endured a major strike of six months duration or more, plus plenty of lesser but bitter battles.

Nevertheless, both the union and the economy have survived and in reasonably prosperous shape.

• **Sugar Strike**—A four-and-a-half-month strike in 1958 seems to fit more into the era of stability than into the hurly-burly of the past. It was hard and tough, with strong-worded exchanges between the parties. But Philip P. Maxwell, third president of the Hawaii Employers Council, says: "It was an economic strike on economic issues—the type of test of strength which is inherent in the American system of collective bargaining." In the past, the ILWU frequently was accused of conducting ideological strikes—hewing close to a Communist line.

ILWU's 1958 sugar strike won wage increases that were substantially more than the industry's prestrike offer, but also well below the union's prestrike demands. The sugar agreement must be renegotiated next year. Hall told ILWU sugar workers recently that the union can reach an agreement in 1961 without the necessity of another strike if it sticks to "mature and realistic" demands.

• **Union Shop**—For employers, the new labor peace has had its price. The union shop, once a major strike issue in one industry after another, was granted without fanfare in the recent pineapple contract extension.

Officially, the islands' employers are still against any form of compulsory unionism, wary of the added power it might give ILWU and other labor organizations. The Hawaii Employers Council still recommends against union shop agreements.

However, the chinks opened in the wall of resistance by the pineapple agreements is expected to widen in further ILWU bargaining. The union says the modified clause covering pine-



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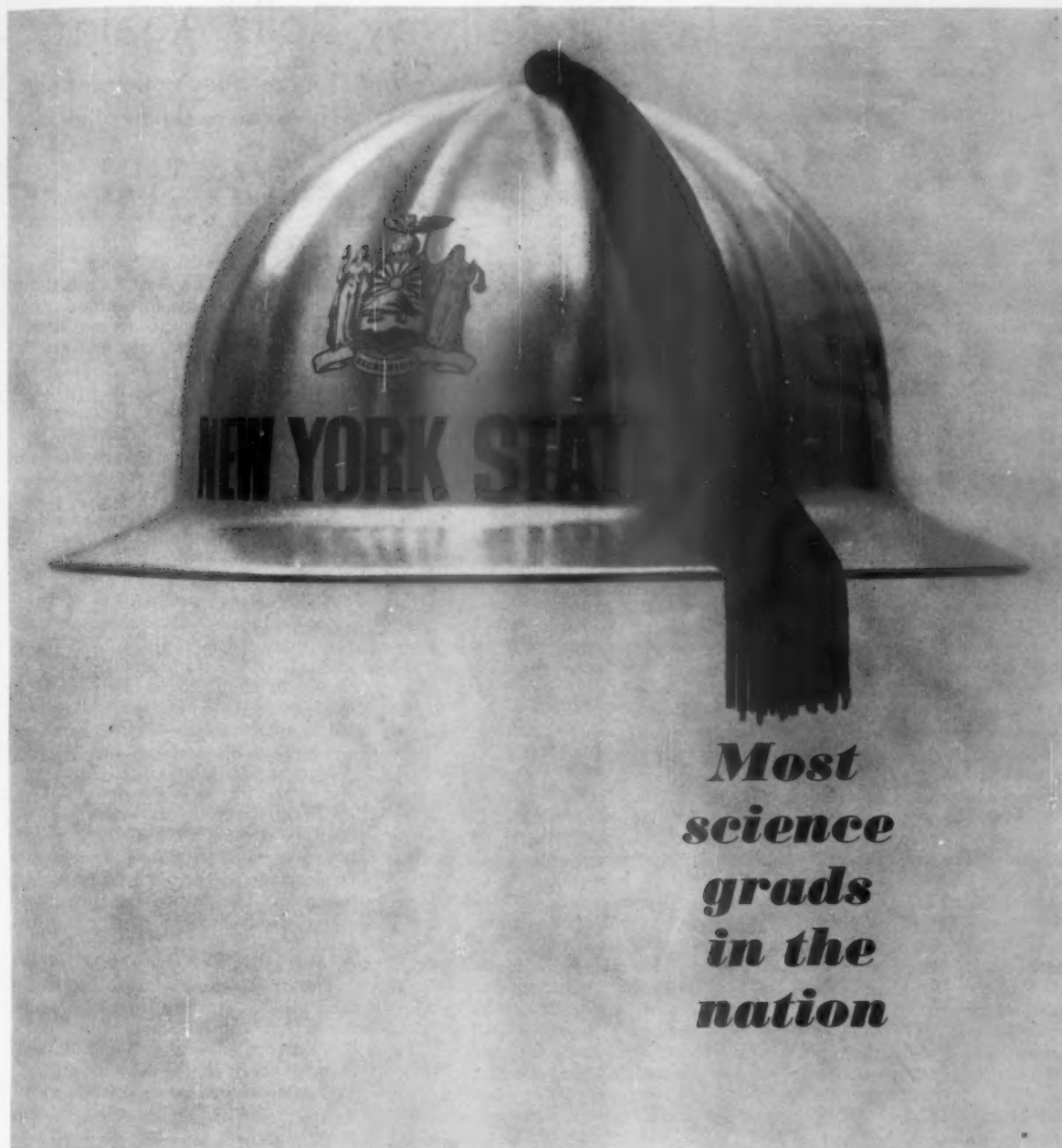
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apple workers will become the pattern.

The AFL-CIO building trades unions sought a union shop in first bargaining on a master contract for the industry on the islands—and won one that could freeze ILWU out of a field in which it has been showing growing interest.

• **Employer Rights**—Generally, employers in Hawaii have succeeded in clinging to more of their traditional rights than managements in most highly unionized mainland areas. They have been helped in this by the Hawaii Employers Council, formed at the end of World War II to cope with the unionization threat by the leftwing ILWU.

The Council has encouraged a unity of employers that has been able to hold firm against concessions. Whipsawing—the union strategy of playing one employer against another—hasn't been effective. Employers pioneered in a strike insurance plan to enable small plantations to hold out in walkouts, not cave in quickly. Perhaps because of their unity, the islands' employers claim a better-than-average record on lost time due to strikes.

• **Organizing Goals**—In a work force of 210,000—not counting 25,000 domestics and self-employed—only about 47,000 workers are union members. This is roughly 22% of the total eligible. Among the 50 states, it ranks about 31 in unionization.

The unions, out to reinforce lagging memberships wherever they can, are eyeing the unorganized in Hawaii, initially 29,000 in the retail industry, 10,000 in wholesale establishments, 20,000 in service industries other than hotels, and 15,000 workers in small manufacturing plants.

The Hawaii Employers Council has always advised members to insist on National Labor Relations Board elections and the step-up in union organizing is reflected by the number of NLRB elections: The 1959 total of 127 more than doubled the number in 1958, and the 1960 figure already has surpassed that of last year.

• **Old Leftwing Charges**—ILWU was among the unions kicked out of the old CIO because of close adherence to leftist positions. The Harry Bridges union is still classified among the leftwing group, and its leaders are closely watched for pro-Communist leanings.

However, the suspicion of leftwing sympathies of ILWU leaders apparently has been all but eliminated as an issue at bargaining tables on the islands.

In organizing and in politics, Bridges, Hall, and others among ILWU leaders still are accused of Communist sympathies at times. However, the head of the Hawaii Employers Council recently said that this group feels that union leadership on the islands is "as responsible . . . or more responsible than it is on most parts of the mainland."

Busiest Railway Rolls Again

Pennsylvania RR resumes service after settlement with striking unions. Compromise terms give rise to claims of victory by both sides.

Pennsylvania RR trains resumed operations this week after a 12-day strike by 20,000 of its 75,000 employees. The nation's busiest system, with over 10,000 miles of track, began a gradual restoration of service at a time when the impact of its shutdown was spreading (BW—Sep. 10 '60, p30).

The road had full commuter service and passenger trains in operation by midweek. It promised that freight traffic would be back to normal within a week.

The critical issues in the strike, which began Sept. 1, involved job security for Pennsy workers already hard hit by job losses and work rules changes (BW—Sep. 3 '60, p94). The walkout by the Transport Workers Union and System Federation 152 of three AFL-CIO craft unions came after three years and three months of deadlocked bargaining, mediation, fact-finding, and White House intervention under the Railway Labor Act.

• **Mounting Pressure**—With outside pressures against them mounting, the opposed parties settled on compromise terms interpreted favorably by both sides. The labor organizations claimed a victory. The carrier said that it had won rules changes that should help "the efficiency of our operations," and had agreed to terms likely to cost "something under a million dollars a year."

A Pennsylvania spokesman said that the "entirely satisfactory" agreement gives the unions none of their original demands that "would have required unneeded jobs and . . . so interfered with the efficiency of our operations as to amount to control of them."

• **Arbitration Urged**—James M. Symes, board chairman of the railroad, said in an after-settlement statement that "the strike that never should have happened" gave new support to proposals of binding arbitration in the railroad industry.

"It has been made crystal clear that strikes cannot be permitted to occur in a regulated industry upon which the public depends so heavily for essential transportation service," Symes said. He urged Congress to "put an end to such strikes by requiring binding arbitration in the industry."

• **Insurance Plan**—Michael Quill, president of the TWU, said that the terms of the agreement would have been accepted by the unions early in the bargaining—without the long tension and the costly strike. Along with other rail labor leaders, he blamed the industry's

year-old strike insurance plan for the Pennsylvania's position that "forced" workers to walk out.

Under the insurance plan, a struck road can collect from pooled funds up to \$600,000 a day for certain daily "fixed expenses" on an average basis—for property taxes, interest charges on debts, pension fund payments, and costs of maintaining the road in a standby position during a strike. The indemnity does not cover a loss of profits.

The plan announced in August, 1959, presumably paid the Pennsylvania a maximum \$600,000 a day during the walkout, or a possible \$7.2-million. The road estimated this week that it had lost "something like \$40-million" in revenue during the strike.

• **Challenges**—Rail unions are increasingly concerned about the insurance plan, drafted, they contend, to mass the resources of the roads against labor.

Two developments in the past week underscored the unions' position against the insurance plan:

• The Brotherhood of Railroad Trainmen sued the Long Island RR and other members of the Assn. of American Railroads for \$10-million in damages, alleging a conspiracy—through the strike insurance plan—to finance the 26-day strike on the Long Island earlier this year. The New York area commuter road received an estimated \$50,000 a day in strike indemnity during the walkout.

The BRT charges that the strike fund plan violates the Interstate Commerce Act, which requires Interstate Commerce Commission approval (not given) if assets or resources are pooled. The union also charges that the plan is an "illegal and secret conspiracy," and a violation of the federal antitrust law.

• Hard hit by the Pennsylvania strike, the New Haven RR asked unionized employees to agree to a 10% wage deferment for the next six months—in effect an interest-free loan of a total \$150,000 a week to the road. The employees balked. Their unions criticized the Long Island for paying a reported \$102,200 a week into the industry's strike insurance program to support the Pennsylvania's strike position, in view of the Long Island's long-standing financial problems.

The unions said that giving the railroad the help that it sought would make them "partners in a strikebreaking scheme." **END**

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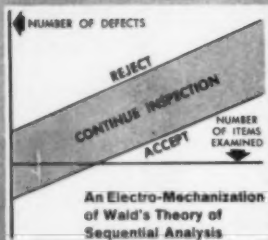
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can boost quality quicker and more effectively through statistical methods via Q-TROL. As valuable to a modest firm making nuts and bolts as to a major automobile manufacturer. If you employ quality control engineers, they will appreciate Q-TROL ability to automatically signal acceptance or rejection of production sampling. Yet Q-TROL is sufficiently simple that plant superintendent can set controls and interpret results. Investigation invited!

Ask For a DEMONSTRATION

Request Q-TROL literature or demonstration on Company letterhead. State size and type of business. Name any specific quality control problem where immediate help is needed.

DIVERSA 
ELECTRONICS INC.

A SUBSIDIARY OF DIVERSA, INC.

5114-D W. Jefferson • Dallas 11, Texas • FE9-9351

Teamsters Roll . . .

. . . ahead in drive to get into manufacturing plants as they win right to represent elevator company employees.

Last week, James R. Hoffa, president of the International Brotherhood of Teamsters, served notice that his union intends to move into manufacturing plants wherever workers want the "strong unionism" of the IBT.

The Teamsters hasn't been a stranger in factories in the past. The union has some major industrial contracts, in electrical manufacturing and other fields. But, Hoffa says, the IBT is getting frequent requests these days from plant workers who want the Teamsters to take them over, and the union will do so wherever possible.

• **Toledo Gain**—About the time Hoffa was making his statement in New York, the National Labor Relations Board certified IBT Local 20 in Toledo as bargaining agent for 262 production and maintenance workers employed by the Houghton Elevator Div. of the Toledo Scale Corp. Local 20 defeated an Allied Industrial Workers local that had represented Houghton employees for more than 15 years 212 to 32 for the Teamsters.

The victory for the Teamsters is significant for several reasons:

• It shows that the IBT really intends to go after manufacturing production workers—regardless of past representation or affiliation.

• It gives the Teamsters bargaining rights in a company that ranks high among some 45 U.S. companies that manufacture and install elevators.

• It may intensify union rivalry in Toledo. Local 20 is now entrenched in an important branch of Toledo Scale, where the United Auto Workers is the principal union.

• **Dissatisfaction**—AIW struck Toledo's Houghton Div. in May over the dismissal of five employees. As the strike dragged on, the local membership complained that the international wasn't giving them the backing they needed. They asked for Teamsters' help.

The IBT pitched in with substantial strike support. It didn't take the Houghton strikers long to decide to join the Teamsters if affiliation could be worked out.

In mid-July, Houghton announced that it was going to reopen its plant. When it did, most strikers returned to jobs. The Teamsters petitioned for an NLRB election, claiming that the AIW contract was voided. The election was held, and the IBT bagged a major prize. **END**

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Money still is the richest reward for any right-thinking executive. But today it's a new kind of money. It's the money he does *not* take home on payday. The money that he does *not* add to his current taxable income. The money he does *not* collect until after he's retired. It's the money he gets from Deferred Compensation, and Deferred Compensation is one of Equitable's specialties. For complete information on how you can provide Deferred Compensation for selected employees in your company at a surprisingly low cost, mail in the coupon at right. No obligation, of course.

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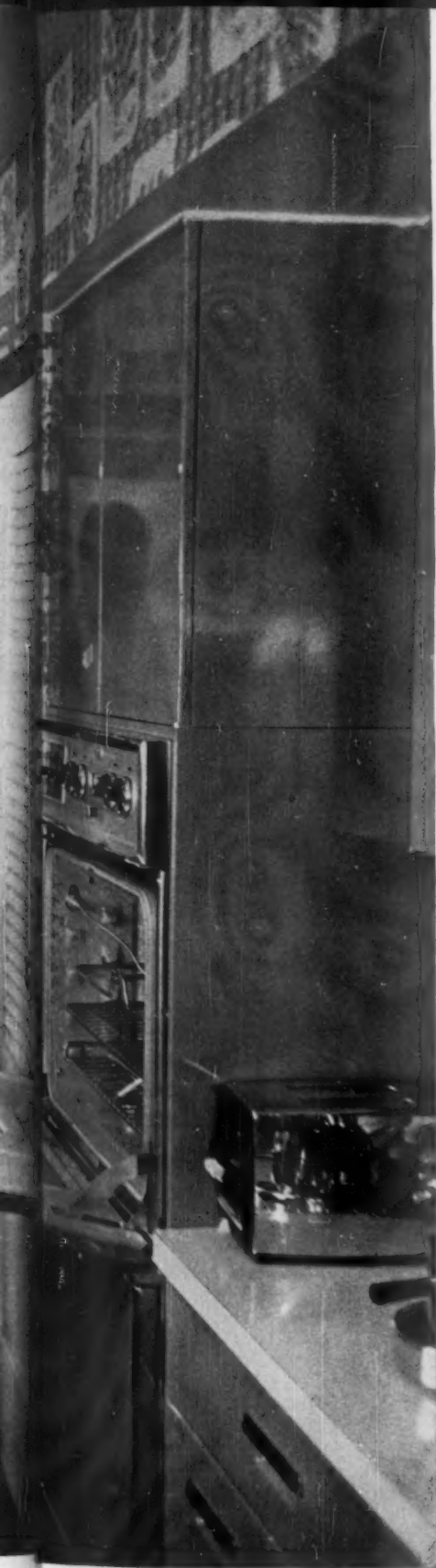
FURNITURE, perfume, anything displayed is for sale at B. Altman's Progress House.



CUSTOMERS get a chance to test out the merchandise in a homelike atmosphere.



BUILT-IN oven by General Electric gets attention of a young mother in B. Altman's store "house." Several customers have ordered whole rooms to be duplicated in their homes.



PROGRESS HOUSE, which serves as model home for nearby builder's development, was built on parking lot of suburban branch store as showcase for household goods.

Selling Home Wares By the Roomful

Everything—including the kitchen sink—is for sale at B. Altman & Co.'s Progress House. The house itself, adjoining Altman's suburban store in swank Short Hills, N. J., serves as a model home for a nearby builder's development. But inside it's also a "store" for Altman's. A roving customer can buy on the spot such items as appliances by General Electric, Amtico vinyl flooring, or plumbing fixtures by American-Standard that are on display.

Altman's has been staggered by the amount of traffic—and buying—gener-

ated by Progress House. It opened the house for business in June and will keep the "store" going for at least another seven months. Next month, it will start redecorating the rooms for a different array of merchandise.

The store sees several big advantages in Progress House. It shows to advantage such hard-to-display items as floor tiling. And it encourages customers to buy goods by the roomful rather than piecemeal. Also the house encourages customers to buy in bigger lots—such as a houseful of carpeting instead of just one rug.

PROSPECTS are converted to sales right on the premises—in the two-car garage. The store already is planning to redecorate Progress House to display new lines of merchandise.





"What this country needs is a good 25¢ Martini"

HOW EVERY HOME CAN HAVE IT—READY TO POUR ON-THE-ROCKS!

Haven't you often wished you could offer your friends cocktails? They enjoy these smart mixed drinks when they're on the town. Now planned and improved they would be if you mixed them!

And now you can... without work, worry or extravagance. Manhattan? Daiquiri? Extra Dry Martini? Heublein has it for you—ready-mixed and perfect! Just pour on-the-rocks right from the bottle.

Made with choice liquors, expertly proportioned, these new cocktails you'll be proud to serve at any given. You—drink for drink—they cost less than plain whiskey! No wonder more than 20,000,000 Heublein Cocktails were shipped last year.

ONE MARTINI—FULL STRENGTH—READY TO SERVE
 Extra Dry Martini, 42.5 proof, Manhattan, Dry Manhattan, 35 proof, Old Fashioned, 35 proof, Daiquiri, Whiskey, Tequila and Ritz, 35.5 proof, Sling, 35 proof, Soda Martini, 35 proof.
 © Heublein & Son, Hartford, Connecticut

HEUBLEIN'S COCKTAILS

SLOGAN (left) keys Heublein's latest drive to push its pre-fab cocktails.

John Martin (right), head of Heublein, fondles bottle of cocktail mix. His biggest seller: vodka.

Ready-Mix Woos the Drinker

"What this country needs is a good 25¢ Martini." With this rallying cry, Heublein, Inc., next week will launch an all-out campaign to lure a substantial bloc of buyers away from what it calls "plain whiskey." Heublein's slate of candidates includes nine different varieties of bottled cocktails. Its advertising platform claims improved product in a different package at a lower price.

Heublein isn't above trying snob appeal. Its ads ask, "Haven't you felt a bit dated . . . pouring the same old plain liquor for your guests? Heublein Cocktails cost less than plain whiskey."

• **Six-Year Rise**—Unorthodox tactics like these have carried Heublein's annual sales from \$37-million up to \$103-million in the past six years. Its \$3.6-million profit for fiscal 1960 represents a sevenfold increase over the same stretch. Most of this standout growth record in the rather sluggish distilling industry can be attributed to Heublein's Smirnoff vodka. In the six-year period, U.S. vodka sales have shot up from about 3.5-million cases per year to 18-million cases. In terms of cases sold that ranks it close to Scotch and well ahead of both Canadian whiskey and cordials plus brandy. Smirnoff, the highest-priced brand, holds an unusu-

ally strong position with its 30% share of the vodka market.

Despite its dependence on practically flavorless vodka (70% of Heublein's sales), the company can best be described as being in the flavor business. Its food lines include A-1 Sauce, Maypo (a maple flavored cereal), and a variety of imported gourmet foods. Cordials, Harvey's sherries, and bottled cocktails have been strong sellers in its spirits lines. Even with vodka, Heublein has appealed mostly on its qualities as the "perfect mixer." The company has even tried selling flavored vodkas; these had to be withdrawn because the flavors couldn't be stabilized.

One of Heublein's more spectacular product flops was a pressurized barbecue sauce called "Sizzl-Spray." After several cans exploded in supermarkets, Heublein abandoned Sizzl-Spray. Comments Pres. John G. Martin, "We like our products to do a brisk business, but that was a bit too abrupt a movement off the shelves."

• **Modest Start**—Heublein's robust growth rate in recent years contrasts with most of its history. Heublein got into the flavor business in 1907 with A-1 Sauce. A modestly prosperous family business, it subsisted mainly on

the sauce profits until vodka started booming. In 1939 Martin bought Smirnoff from a White Russian family that had gone broke trying to sell its traditional product in the traditional way to the U.S. market.

Martin claims no great prescience. "I was able to buy Smirnoff for \$50,000 because every other distiller turned it down." After a wartime hiatus, Martin looked over what he had bought. Aside from its aristocratic name and label, Smirnoff didn't look like much. The postwar market was dominated by blends and heavy-bodied bonded whiskeys. Light-bodied, colorless, odorless, and practically tasteless Smirnoff seemed the antithesis of what a successful liquor should be.

Of course, if vodka could be successfully promoted, it would have an important cost advantage over aged whiskey. From a financial viewpoint, the two most important ingredients in aged whiskey are the federal tax, \$10.50 per gal. of 100 proof, and inventory carrying costs. These costs cut several ways. Capital is tied up in both the aging whiskey and in the casks where it ages. Casks cannot be used for more than one batch of American whiskeys. And for every year that whiskey ages,



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about 1% is lost through evaporation.

• **Quickly Made**—Vodka, like gin, can be made practically overnight. Both avoid the considerable carrying costs involved in aging whiskey. And they share an important market forecasting advantage as well. Since production time is negligible, vodka and gin producers have to forecast their demand only for the length of time it takes to move the product through the distributional pipeline. By contrast, whiskey makers must figure what retail demand will be four to eight years ahead. In the capricious liquor business, where both total demand and product popularity fluctuate unpredictably, long-range forecasting depends more on clairvoyance than science.

Lest Heublein be carried away with visions of windfall profits, Martin had to consider the sobering example of gin. Domestic gins, similar to vodka except for the addition of some aromatic herbs, had never been profitable. They had been heavily "price-footballed"—used as loss-leaders to gain entry for the rest of a distiller's or wholesaler's lines. And while guarding Smirnoff from acquiring a reputation like gin's, Martin had another problem: Practically no one was drinking vodka, Smirnoff or any other brand.

• **Smirnoff's Target**—Martin decided to aim high for Smirnoff. He set an "A" brand price on it, which means it retails for around \$4.40 per fifth. By contrast, most vodkas sell in the "C" brand category, at \$3.29. Heublein has an entry, Popov, in this market, as well as its Relska in the "B" brand field. Actually, since Heublein doesn't enjoy the economies of large-scale operation on the lower selling Popov, this lowest-priced brand is the most expensive for the company to handle.

Instead of creaming the profit off the higher priced Smirnoff, Martin poured the money back into advertising aimed at creating a posh aura for the brand. No expense was spared to associate Smirnoff with luxury. Illustrious personalities, soigneur settings, and Smirnoff were featured together in four-color magazine ads. In one, the props alone cost more than \$10,000. While its other products don't get equally lavish treatment, Heublein figures it spends twice as much per case as the industry average.

• **Entree for Ads**—Heublein's ads not only looked more expensive, they also looked different. When the company started plugging Smirnoff heavily, most liquor advertising used the "price-bottle" approach—newspaper ads featuring a picture of the product and stressing its bargain price. Women were absolutely taboo and many magazines either refused liquor ads or else accepted them subject to a quota. Martin spearheaded the effort that got the in-

dustry to drop its ban on women in ads and has induced several "dry" publications to accept Heublein's ads. Next year he hopes to break the TV barrier against liquor ads.

Smirnoff ads also capitalize on vodka's neutral taste. Heublein has inspired or promoted a number of fad cocktails that have coupled vodka with some strange companions: the screwdriver—vodka with orange juice, the bullshot—vodka with bouillon, the Bloody Mary—vodka with tomato juice, and others. It was the Moscow Mule (vodka and ginger beer, served in a copper mug) that kicked off the vodka boom during the Korean War. Heublein wholesalers were abashed when the New York Daily News ran a front page picture of bartenders parading with protest placards saying "Smirnoff Go Home. We Can Do Without the Moscow Mule." Delighted, Martin wanted to know how much it would cost to get more of the same publicity.

Since that time, Heublein has inaugurated each new drink with a crescendo of publicity. Entertainment celebrities throw vodka parties with Heublein picking up the tab. Until paid plugs became illegal, Heublein handed a well-known comedian \$100 a week to slip Smirnoff jokes into his routine.

• **Breathlessness**—While it is promoting vodka's image in its ads, Heublein also took some swipes at competitive liquors with its double-meaning Smirnoff slogan, "It leaves you breathless." The Alcohol Tax Unit, which must pass on the propriety of liquor advertising, questioned the implication that other liquors left telltale odors on a drinker's breath. At Heublein's behest, the U.S. Testing Co., a commercial testing lab, demonstrated that any hint of vodka was gone from a drinker's breath in five minutes as against 30 minutes for whiskey.

Heublein's unorthodoxy rests on its conviction that the liquor business has changed remarkably in the postwar period. Says Martin, "We are faced with a new breed of drinkers. It wasn't that way during Prohibition. Then you drank fast—you never knew when somebody might raid the joint. Particularly in the younger adult groups, people today drink less but more of them drink and on more occasions."

Heublein has drawn its profile of the new-style liquor customer from one of the most exhaustive research programs in the industry. In 1953 when vodka's growth curve was bounding upward, the company commissioned Stewart, Dougall & Associates to conduct a grass-roots study of why people drink "hard liquor"—the study excluded wine and beer. The survey covered an unusually high number of people—7,167 adults—and conformed to U.S. Census data on



through the night

The road ahead curves and unwinds.
Atlanta, ten-thirty, raining.
Extra careful now on the turns,
Extra sure in climbing and passing.
Give every motorist a courteous space,
Every hazard the benefit of the doubt.
Keep a steady pace but don't rush it,
Be safe and you won't be sorry.

Into Birmingham and Shreveport.
Through New Orleans and Tampa,
Past many a sleeping hamlet,
Many a rain-drenched farm,
Go the truck convoys and their pilots,
Reflexes at the ready, eyes sharp,
Their tonnage answering like a part of them.

America is abed, but not the truckers,
They bring the produce of mine and mill
To market in a hundred teeming towns.
They know their daily jobs and what to do
To bring their highway cruisers into port.

It's a man's job sitting there behind the wheel,
It takes good judgment and it takes good sense
To keep the nation clothed and housed and fed.
We're proud such men will ride the roads tonight.



RYDER SYSTEM, INC.

Advertising Dept. P-2
P.O. Box 33-816, Miami, Florida



F40-24
4,000-lb
capacity



F50-24
5,000-lb
capacity



ALLIS-CHALMERS
...power for a growing world

characteristics such as age, sex, economic status, race, geography, and occupation.

The study turned up a number of factors that look bullish for the industry, particularly when teamed up with predictions for an increasingly affluent and urban society. Drinking is much more common among the younger age groups, particularly among younger women. The greatest percentage of drinkers is found in the 30-39-year-old groups. 65.2% of the men drink, 47.5% of the women. Drinking rises as a function of wealth. Only 41.9% of the lower class drink; the figure goes up to 61.4% in the top economic bracket. Drinking also goes with occupational status: 64.8% of managers and professionals drink as compared to 57.5% of blue-collar workers. Drinking is heaviest in major cities, lightest in rural areas.

• **Matter of Taste**—Even more important from Heublein's standpoint, some 55% of the sample expressed a dislike for the taste of hard liquors other than vodka. These good prospects for tasteless vodka were most numerous in the growth groups of drinkers: women, younger men, members of the upper middle and middle classes, managerial, professional, and white-collar workers. Further study confirmed another industry trend of importance to Heublein. On-premise consumption (cocktail lounge, bar, tavern) was declining while at-home drinking was on the upswing.

Seeing special opportunity for vodka in this picture, Heublein decided to divert appropriations away from some of its other products and pour it all into vodka advertising. The shift to family drinking dictated ads showing women, and depicting drinking as a family activity. Getting liquor ads accepted in magazines that had formerly refused them, such as the Saturday Evening Post, did more than open up important new markets; it also provided subtle assurance to the magazine's readers that drinking was now a socially acceptable activity. And magazine color and slickness abetted Heublein's image-building efforts.

Heublein's research also indicated the need for heavier advertising expenditures per case. With more people drinking less per capita, Heublein had to use more media to reach its prospects. Heublein's emphasis on advertising vodka as an integral part of a drink like a screwdriver or a Bloody Mary, calls for frequent ads to keep up with the latest fad. Heublein seems to have succeeded in appealing to that large segment of the market that wants to avoid a liquor taste, but this segment follows a fickle pattern, switching rapidly from one drink to another.

• **Quest for Mixes**—Heublein is run-

..power

The three new Allis-Chalmers F series lift trucks shown at the left are driven by a new POWER CRATER engine built by Allis-Chalmers. The unique crater-shaped piston head sets up violent swirling turbulence, thoroughly mixing fuel and air. Because of this proper mixing, a higher percentage of fuel is transformed into useful energy.



performance

Power, balance and weight distribution to climb steep grades • Roller channel steel masts for smooth, fast lifting • Simple, "easy-to-turn" steering, one-lever gear shift • Pivoted steer axle for smoother riding, positive traction • Comfortably wide, adjustable, ventilated-cushion seat • Positive, safe braking — two systems.



..economy

Substantial fuel savings with new POWER-CRATER engine • Replaceable wet cylinder liners in engine save time and money • Easy serviceability — clutch change in only 30 minutes, counterweight quickly removed • Solid 2" x 5" bar-steel, heavy-duty frame • Optional transmissions — standard or POWER-SHIFT drive.

Let your dealer show you how new F series trucks do more, save more. Send for new bulletin BU-640. Allis-Chalmers, Milwaukee 1, Wisconsin.



POWER-CRATER and POWER-SHIFT are Allis-Chalmers trademarks

ALLIS-CHALMERS
...power for a growing world

New from Fibreboard . . .



New easy-opening, liquid-tight carton with coating of ALATHON® cuts costs 1/3



The paper liner, which is glued to the inside of the paperboard carton, has a coating of Du Pont ALATHON to provide strong heat seals and complete moisture retention.

Snow Crop has increased the consumer appeal of its frozen strawberries with this new package. This carton, which opens quickly and easily without utensils, eliminates the difficulty and mess often encountered when opening the old metal-ended canister.

The key to this new liquid-tight carton is a paper liner coated on the inside with Du Pont ALATHON polyethylene resin. The ALATHON is tasteless and odorless, and it provides the strong heat seals and moisture barrier needed to prevent leaks. This new carton, called Fibrematic®, and the machine to fill it are exclusive developments of Fibreboard Paper Products of San Francisco. The cartons can be filled and sealed at the fast rate of 200 per minute. Eliminating the metal ends from the previous package also reduces the shipping

weight. Considering all savings, costs were cut by 1/3 with this new carton.

Find out how ALATHON can improve your package and lower your costs by writing for more complete information. Address: E. I. du Pont de Nemours & Co. (Inc.), Dept. D-917, Room 2507A, Nemours Bldg., Wilmington 98, Del. In Canada: Du Pont of Canada Ltd., P.O. Box 660, Montreal, Que.

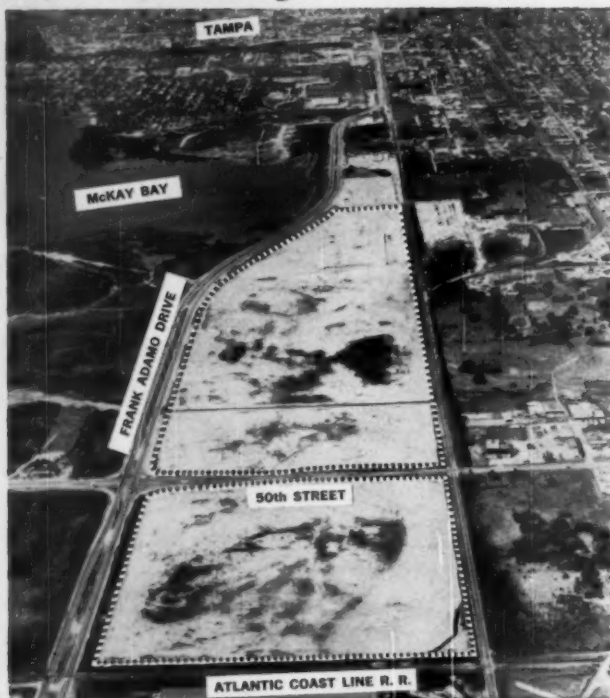
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Save Building Time and Money!



Put Your Plant in This Construction-Ready Industrial Park at Tampa, Florida

Need a plant site in the fast-expanding southeastern market? Consider the cost-saving advantages of this cleared and graded 130-acre tract at Tampa, Florida.

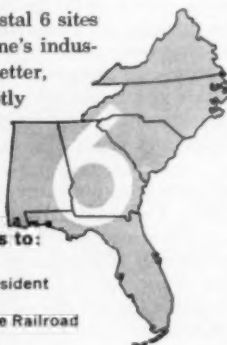
Developed by Atlantic Coast Line, this industrial park offers "close-in" convenience to downtown Tampa without loss of space for future expansion. The tract is served by an adjacent four-lane highway, a Coast Line mainline track, and is also within easy reach of Tampa's shipping and airport facilities. City utilities and electrical power are immediately available as required. Reasonable construction costs; excellent manpower supply; cooperative government; good schools; superior climate and living conditions.

Complete details on this or other Coastal 6 sites are yours on request. Contact Coast Line's industrial development specialists by wire, letter, or phone. Your inquiries will be promptly answered and held in strict confidence.

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Department J-90
Atlantic Coast Line Railroad
Jacksonville, Fla.



ning a little low on new inspirations for vodka combinations. It has one waiting in the wings called a Salty Dog—vodka, grapefruit-flavored soft drink, and salt. The company sees some indications that its earlier inspirations are coming back. The screwdriver is enjoying a revival in California, the cradle of new vodka drinks and the best vodka market.

While vodka's growth curve shows no signs of tapering off, Heublein seems a bit nervous about getting 70% of its sales dollars from one product. Its bottled cocktails, actually one of its oldest lines, suggested another way to capitalize on the trend toward flavor in drinks. They had been a feature of Heublein's since the turn of the century when a company legend claims that a batch of Manhattans were made up for the Connecticut Footguards to take on a picnic. It rained and the Manhattans were forgotten. Six months later, an employee found the cocktails, sampled them extensively and pronounced them quite fit to drink.

• **Triple Handicap**—Despite this early promise, bottled cocktails have never been spectacular sellers. After much investigation, Martin concluded that three things were wrong: There were some defects in the products, the prices were too high, and the advertising was misdirected.

Elaborate new equipment—including a monster that takes excess oxygen out of the drinks—helped some. Extensive consumer samplings led to a happy discovery. People appeared to prefer lower-proof drinks. Heublein quickly catered to the popular taste by dropping proof—which had the effect of also cutting costs. Federal taxes drop when the proof goes down, so Heublein cut an average \$2.40 per case off its cost. Lower proof means more water per bottle, reducing ingredient costs.

But one of the biggest consumer objections to bottled cocktails had been that they cost slightly more than the ingredients purchased separately. So Heublein designed a tapered bottle that holds $\frac{3}{4}$ of a quart instead of the conventional fifth of a gallon. Because bottled cocktails are rated "specialty liquors" by the federal government, Heublein can legally vary their bottle size—a privilege denied to commodity liquors like whiskey, vodka, or gin. All told, these savings enabled Heublein to chop \$3.60 per case off the retail price, enough to give Heublein cocktails an apparent 25¢-50¢ per bottle advantage over ingredient liquors.

Finally, Heublein switched its advertising away from selling the bottled cocktails as "convenience foods," to an emphasis on more flavor for less money. Says Martin, "Now we are telling people that what we're selling is a better way to drink whiskey—for less money." **END**



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New Goldkraft.* An amazing golden packaging board that saves you an entire printing process.

International Paper has developed a new linerboard that cuts the cost of printing shipping containers by eliminating one entire printing process.

This discovery is new Goldkraft, one of International Paper's many rugged, specialty Gator-Hide® kraft linerboards.

At our Mobile, Alabama research center, a new process has been developed that builds golden color into the board *right on the high-speed papermaking machine*. New Goldkraft will save your company and boxmaker the substantial

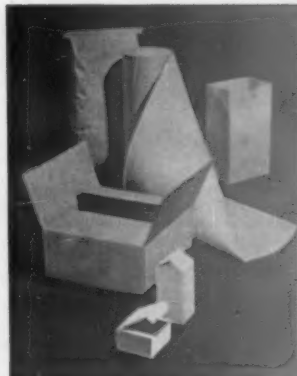
cost and time of an extra over-all color printing.

Goldkraft is another example of our ability to make strong, attractive and economical packaging papers and boards for industry.

Experimental papermaking processes are in continual development at International Paper's 16 mills and in its research centers. Last year, our staff of 322 package and research counselors answered inquiries at the rate of one every 7 minutes.

International Paper can provide you with the widest range of papers, boards and packaging assistance in the industry. Call us or contact your converter—he's probably been doing business with us for years.

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"SOMETHING OLD...S STARTS WITH A



Even the newest crystalware or the latest TV picture tube contains "something old." It's *potassium carbonate*—basic ingredient of fine glassware. Our Solvay Process Division produces it for makers of optical glass and crystal. Solvay also makes *soda ash*, basic to "ordinary" glass such as bottles and windowpanes.

Allied is a producer of both *basic* chemicals and *new* products. This unique combination of "old and new" puts the company in an excellent position to "open doors" as the future demands. *Allied Chemical Corporation, Dept. 96-B, 61 Broadway, New York 6, New York, HA 2-7300.*

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...to better products!



Car styles may change, but one "ingredient" remains as basic as the wheels themselves. That's *sulfuric acid*. Our General Chemical Division produces it for "pickling" body steel . . . for processing tire rubber and rayon for upholstery . . . for batteries . . . and for the refining of gasoline and lubricating oils.



Completely new materials—plastic foams and fibers—also start with basic chemicals. From them, our National Aniline Division has created TEXTURED CAPROLAN. It's a new kind of nylon carpet fiber that "remembers" to spring back after pressures . . . and NACCONATE diisocyanates, key to plastic foams that make the most comfortable cushioning a chair can offer.

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INTERNATIONAL OUTLOOK

BUSINESS WEEK

SEPT. 17, 1960



Pres. Eisenhower's last minute decision to address the opening session of the United Nations General Assembly shows how seriously Washington is taking Soviet Premier Khrushchev's foray into New York (page 25).

Secy. of State Herter this week persuaded the President that he had to meet Khrushchev head-on. Eisenhower had planned to speak after Khrushchev had left. He may still go to New York for a rebuttal performance.

The debate between the President and the Soviet Premier will range across the whole front of the Cold War. The immediate prize is influence in the Afro-Asian bloc.

Eisenhower is under pressure to come up with new proposals. He wants to regain the initiative lost at the Paris summit meeting by capturing the imagination of the U. N. delegates—and to give Vice-Pres. Nixon's campaign a lift.

Final decision on new plans—if any—probably won't be made until the eve of the President's appearance. Advisers are considering suggestions, including new versions of the "open skies" idea, plans for neutralizing Africa, controls on nuclear-bomb delivery systems, joint outer space research, international control of nuclear weapons, and a permanent U. N. police force.

The rift between Russia and China seems deeper than Washington officials earlier thought. Behind the ostensibly ideological argument over how to deal with the West (page 25) is a real power struggle that will touch many aspects of foreign and domestic policies with the Communist bloc.

Soviet Premier Khrushchev appears to be trying to isolate China from the rest of the Communist bloc. He has made it clear to Peking that it will have to come to heel or be left out. Khrushchev has garnered support from most other Communist leaders, even in China's backyard of Southeast Asia.

Khrushchev may meet with Chinese Communist Party Chmn. Mao Tse-tung to compromise on or cover up their differences. The Soviet leader will be in North Korea in October—a conference on what both would consider neutral ground is rumored.

The Russians most likely will not push the latest Berlin fracas to a military test of strength. The quarrel has been reopened by East German restrictions on travel between West Berlin and both East Berlin and East Germany.

Things could get pretty hot nonetheless. Some Soviet experts in Washington believe the Kremlin wants tension in Berlin to remind the world of the danger of war. This would give punch to a "last chance" appeal by Premier Khrushchev in the United Nations.

East German restrictions on travel are tricky for the West to handle. They don't violate Big Four agreements. But they clearly are aimed at

INTERNATIONAL OUTLOOK (Continued)

BUSINESS WEEK

SEPT. 17, 1960

weakening the position of the Western garrisons there, and at shaking West Berliners' morale.

—●—

Japan's conservative Liberal-Democratic Party is going for broke in this fall's elections, tentatively scheduled for Nov. 27. Businessmen backing Prime Minister Hayato Ikeda believe they have a chance to capture two-thirds of the Diet seats, breaking the back of the Socialist Party.

The conservatives feel the country is reacting against the violence generated by leftist demonstrators that led to the cancellation of the Eisenhower visit last June and brought down Prime Minister Kishi's government.

Ikeda has a good chance to achieve his goal. If he does, the conservatives would feel they have a mandate to amend the "no war" clause in Japan's constitution. They would also take a tough line toward Communist China.

—●—

Cuba's internal problems are becoming more acute.

A "galloping" inflation has taken hold, unemployment is widespread, and revolutionary leader Fidel Castro is losing support even among the peasants, once his most ardent backers. Fuel and food are in short supply despite imports of Russian crude oil and Communist Chinese rice.

Armed opposition to the revolutionary regime is increasing. A half-dozen guerrilla bands, totaling about 1,000 men, are raiding military posts—just as Castro once raided arms caches. Castro has tripled the size of security forces in Havana.

Outside Cuba, Castro exiles are joining dissident forces. They have formed a united front, and have moved their base of operations from Mexico City to Miami, where more money is available.

Anti-U.S. moves continue. Besides almost daily propaganda blasts, the regime has nationalized the banks, forcing out Chase Manhattan of New York and First National of Boston. A Russian freighter is reported to have unloaded tanks and artillery, and there is talk of an "unarmed protest march" on the U.S. naval base at Guantanamo Bay.

—●—

Overshadowed by the Soviet Premier's appearance at the United Nations General Assembly are several highly controversial points on the agenda.

Algeria will be a hot question. French Pres. de Gaulle will fight tooth and nail to keep the U.N. out of Algeria. But African and Arab nations, with Russian backing, will push hard for action against France. The U.S. will be caught in the middle—between its ally France and the Arab and African nations whose support it is trying to win.

South Africa is another warm topic. Demands that the South African government reconsider its racial policies have come from 42 members of the U.N.

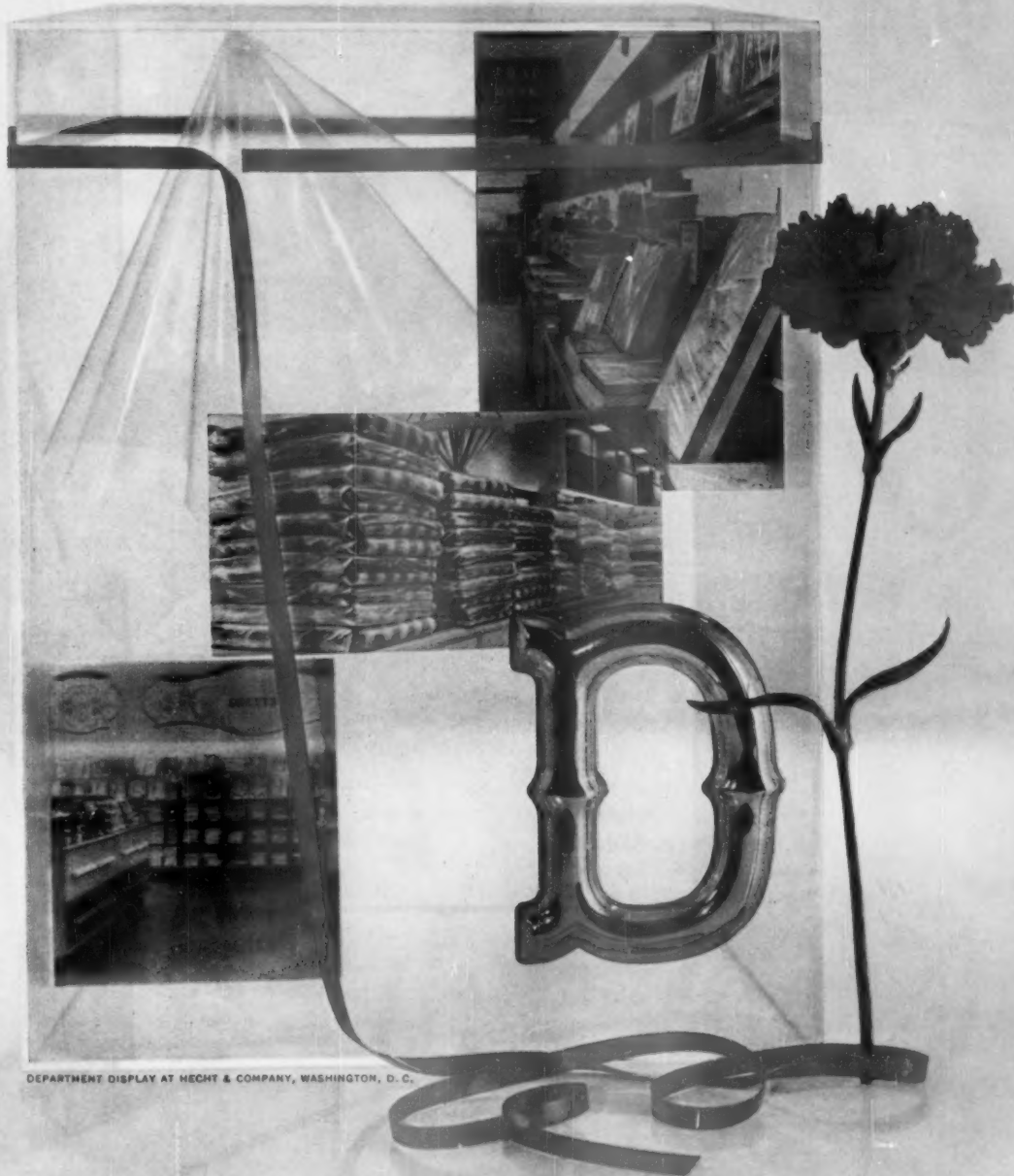
The Communist bloc will come in for its lumps. Both the Hungarian and Tibet questions are on the agenda. The U.S. wants an investigation of the Hungarian uprisings that were brutally suppressed by the Soviet Union.

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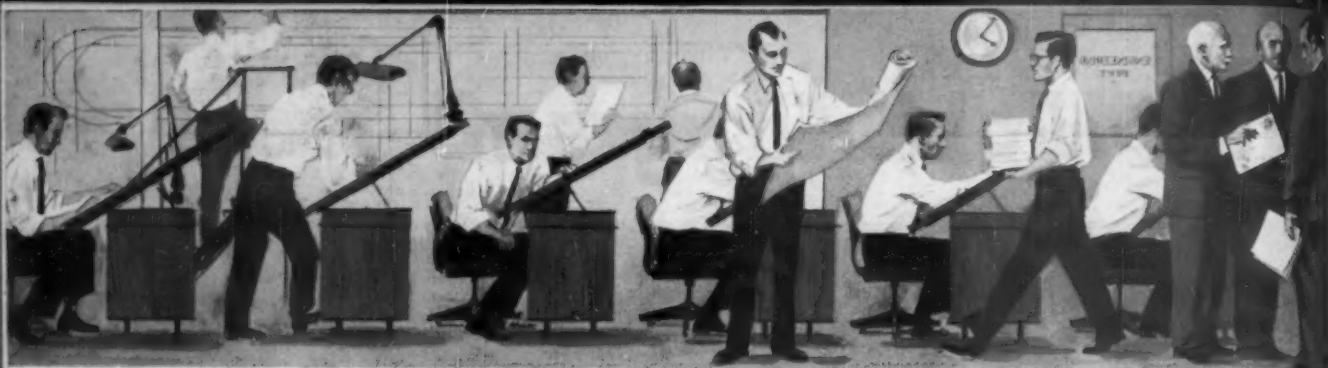


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A Big Leg Up for Latin America

"Act of Bogota" pledges U.S. to \$500-million-plus program to aid development. Beneficiaries promise tax, land, and fiscal reforms.

In Bogota, Colombia, this week, representatives of 19 American nations agreed to an economic development program that calls for:

- New U.S. foreign aid loans and grants, beginning with a \$500-million fund for Latin American social development projects such as land reform, housing, public health, and education.

- An increase in U.S. aid to Latin American industrial projects, adding perhaps \$100-million a year to the \$300-million to \$600-million that Washington has been lending annually to promote mining, power, and manufacturing development.

- Policy reforms by Latin American governments, including more equitable property and tax laws and improved monetary and fiscal policies.

In signing the "Act of Bogota," the delegates also pledged to seek international policies to expand U.S.-Latin American trade, strengthen economic relations between Latin America and Europe, stabilize Latin American export commodity prices, and push development of regional common market and industrialization plans.

The "Act of Bogota" now goes to the Council of the Organization of American States in Washington for approval. The council will assign working committees to spell out details of how the program will work, including proposals of necessary legislation in Latin American countries. The U.S. Congress has already approved the program but will undoubtedly debate it next year when the appropriation requests come up.

- **Markets**—Because this program is long-range, it's difficult to tell just what it will mean to U.S. business interests south of the border. First indications are that it will open up new export markets for U.S. goods and services. But it's not likely to have an immediate or direct effect on private investment.

While the social development projects will be financed by government-to-government loans, contracts for work and material will go to private enterprise in many instances. Private contractors will get a shot at housing developments, waterworks, roads, and the like. But the competition will be wide-open and U.S. builders will have to compete with European and Japanese companies. Government loans will not

be tied to the purchase of U.S. equipment and services.

The U.S. construction industry, say Washington officials, is particularly well geared for this kind of competition. They believe it can compete on price, credit, and delivery terms as well as technical services.

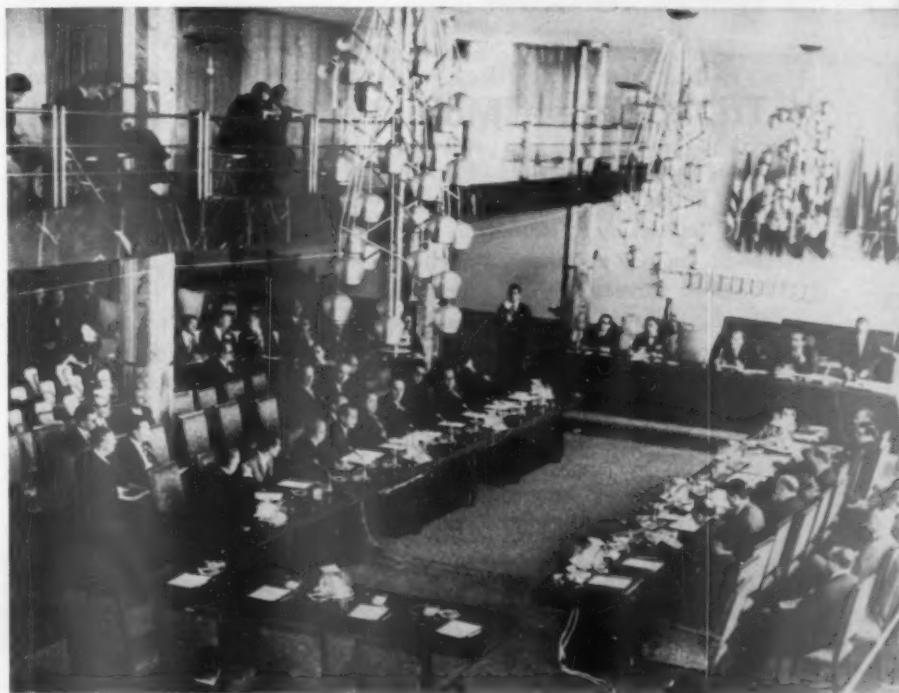
Washington points to other public works projects in which it hopes U.S. companies will participate. Agricultural improvements will take fertilizers and pesticides. Sanitation projects will require chemicals; schools and training centers will be a market not only for builders but for suppliers of desks, laboratory equipment, and books.

- **Rural Priority**—Details on project priorities haven't been set. Generally, rural projects will come first, followed by urban and educational facilities.

Not until the program is well under way are there likely to be indications of investment opportunities. As living standards and purchasing power rise, there may be more possibilities for pri-

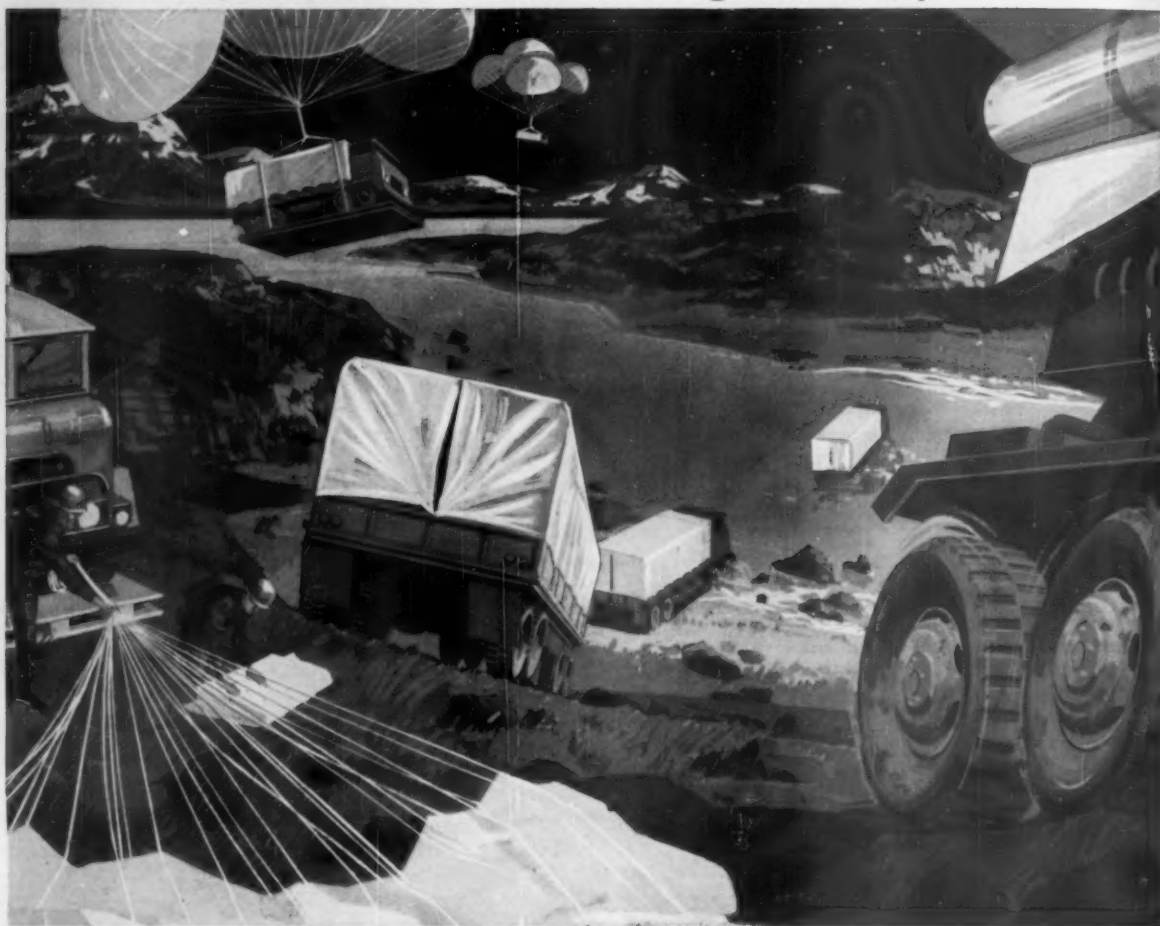


DOUGLAS DILLON, of U.S. State Dept., is credited with the biggest role in signing up 19 nations for pact.



ECONOMIC CHIEFS of the members of the Organization of American States hammered out agreement in this hall of the Military Club in Bogota.

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vate investors. The "Act of Bogota," however, stressed small and medium businesses, rather than large projects.

Just what the new economic program will do to the climate for private investment in Latin America by foreigners is also unclear at this point. Undersecy. of State Douglas Dillon, in presenting U. S. proposals, emphasized the role of private investors, both Latin American and foreign (BW-Sep.10'60, p137). But few Latin American delegates expressed much enthusiasm for more foreign private investment, especially from the U. S.

• **Chilean Chief**—The agency that will handle the new economic program will be the recently established Inter-American Development Bank (IDB), which has headquarters in Washington. Under its Chilean president, Felipe Herrera, the IDB is expected by the OAS and the U. S. to administer the social development program and to guide increased U. S. aid to industrial projects. Herrera is regarded in Washington as an able politician and a sound banker, experienced as his country's Finance Minister, central bank director, and representative to the International Bank of Reconstruction & Development (World Bank) and International Monetary Fund.

The U. S. representative to IDB, former White House aid Robert Cutler, will play an important advisory role. But IDB will take responsibility for the program, with its majority voting control in Latin American hands.

The IDB will handle the social development fund on a revolving basis. Long-term, low-interest dollar loans will be repaid in local currencies. They, in turn, will be lent again.

The IDB will also help decide where U. S. aid to industrial projects will go. It will advise the U. S. Development Loan Fund, Export-Import Bank, and the International Cooperation Administration, which grants technical assistance funds. IDB will also consult with the World Bank and IMF on their Latin American industrial and balance-of-payments aid.

• **Major Switch**—This role for IDB, which officially opens its doors Oct. 1, is perhaps the biggest change in U. S. policy to come out of Bogota. Previously, the U. S. had completely controlled its aid through its various agencies. It has also been highly influential in deciding where World Bank and IMF assistance goes.

Since World War II, U. S. economic aid to Latin America has been about \$4-billion, 10 times military aid. Ex-Im Bank, which finances a few industrial projects besides U. S. exports, has put \$2.5-billion into Latin America. Since its establishment in 1957, DLF has lent \$150-million for basic projects such as roads and communications.



MEXICAN DELEGATE Rodrigo Gomez (right) addresses committee session at the historic Bogota conference. Seated with him (left to right) are Augusto Frederico Schmidt of Brazil, Pedro Beltran of Peru, and Dr. Arnaldo T. Musich of Argentina.

ICA has spent \$400-million on technical cooperation. Agricultural loans total \$400-million, government-to-government loans come to \$300-million, and relief and other special funds amount to \$250-million.

In addition, the World Bank has put \$1-billion in loans repayable in hard currency for such works as natural resources development. IMF has lent slightly less for balance-of-payments purposes.

These figures do not include the \$10-billion in private U. S. investment in Latin America. The rate of increase of this investment has been dropping off lately because of Cuba's seizures of U. S. property and increased interest in the European Common Market.

• **Earlier Criticism**—In Latin American thinking, however, this hasn't been enough nor has it done the right things. In 1958, Brazilian Pres. Kubitschek called for an immense economic development effort, largely financed by the U. S., which he called "Operation Pan-America." Kubitschek's cry was taken up by other prominent Latin American leaders.

Most Latin American delegates are going home from Bogota generally satisfied with the meeting's outcome. They have reservations about the whole thing—not enough U. S. funds, too much emphasis on private enterprise. But most feel that the new program is a good start and that they now have the U. S. genuinely interested in their problems. Most Latin Americans give U. S. delegate Dillon credit for the success of the meeting.

• **General Support**—Reaction throughout most of Latin America supported the program. A BUSINESS WEEK reporter in Buenos Aires cables, "For the first

time in more than a decade, all sectors of Argentina are 100% behind U. S. foreign policies. The attitude of the man in the street is that the U. S. has finally gotten around to a true appreciation of Latin American social and economic problems and is now actively prepared to make constructive efforts to improve the situation, not merely as a political move to strengthen the bulwarks against Moscow but in a genuine desire to aid its neighbor nations."

His words were echoed in both Rio de Janeiro and Caracas. In Mexico City, there is a more skeptical tone. A government economist said, "Let's see what really comes of this." He wants to see whether the new program is "just another aspirin instead of an all-out medicine to cure the continent's ills."

The Latin Americans will have problems with the program in their own backyards. Perhaps the biggest roadblock is certain opposition from some wealthy and influential people to the reforms of land-ownership and taxes called for in the "Act of Bogota." Delegates at the conference conceded that if the plan succeeds, it will pinch profits and plug tax loopholes.

• **Congressional Foes**—In the U. S., the Bogota document may run into criticism on Capitol Hill, when Congress is asked to appropriate money for it. Resistance may come from congressmen reflecting increased domestic pressures for higher rather than lower tariffs to protect U. S. businesses against competing imports.

Despite these doubts, the U. S. delegates at Bogota took a stand that they expect will stick politically. Both Presidential candidates and their Latin American advisers are committed to the aims laid out at Bogota. **END**



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Cuba's Revolution Follows an Old Pattern

In the last few weeks, Fidel Castro, the leader of the Cuban revolution, has been at odds with his Latin American neighbors, whose support he had earlier been trying to win. Many Latin Americans have accused Castro of betraying the ideals of his own revolution.

In most respects, however, the Cuban revolution is following the classic revolutionary pattern that has been analyzed by a number of historians, notably Prof. Crane Brinton, an historian at Harvard. Brinton first published his theories in 1936 in a book called *The Anatomy of Revolution*. Revised in 1952, the book abstracts uniformities from four revolutions—English, French, American, and Russian.

• **Six Stages**—In each of these revolutions, Brinton finds "great overturns in previously stable political societies." He sees revolutions passing, in gradual phases, through six stages:

- "The Old Regimes," in which the conditions for revolution are formed.

- "The First Stages of Revolution," the coming to power of the revolutionists.

- "The Rule of the Moderates."

- "The Accession of the Extremists."

- "Reigns of Terror and Virtue," wherein the extremists purge society of all opposition that they might build a "perfect" society.

- "Thermidor," taking its name from the French Revolution, a period of recovery.

- **Planned Uprisings**—From its earliest days, the Cuban revolution has fairly well followed the course that Brinton sets out. Revolutions like this, he says, are usually planned by a small group, rather than spontaneous. Not until the revolutionists are successful do people rally to their cause.

Immediately after the triumph of the revolutionary force comes what Brinton calls "The Honeymoon." People crowd the streets to welcome the revolutionists as saviours.

As always, the honeymoon is soon over and the new government begins to cope with the problems left by the old regime and the ones it created for itself. This is the "Rule of the Moderates," the men of grand words and high promises.

- **Moderates Doomed**—But Brinton notes that, except in the American Revolution, they are doomed to failure. They have fired up a turbulent, unreal situation where many people want many different things and have been led by the moderates to expect them. The moderates, being moderates, are men of compromise, common sense, and tolerance. But they are not capable of the hard political decisions that would be necessary to keep them in

power and are slowly eased from government posts.

Here the Cuban revolution stands today. For many months, at an ever increasing rate, we have seen competent, moderately inclined men—all at one time devoted adherents to the revolutionary movement—leaving the government.

- **Extremists Take Over**—Now, the extremists are the leaders. Castro himself has become an extremist. His brother, Raul, and the Communist-trained professional revolutionist, Ernesto "Che" Guevara, extremists from the start, have come to exercise more and more power.

The extremists are few in number and fanatic in devotion to their cause. Their dictatorship, writes Brinton, "is embodied in governmental forms as a rough-and-ready centralization."

The uniformities that mark the period of extremist government are almost all clearly visible in Cuba today. Brinton points to: the pressure of a foreign enemy, real or imagined; the newness of centralized government and inexperience of the leaders; the acute economic crisis; and the element of religious faith in the revolution.

- **Reign of Terror**—Because the extremists believe they must remake society totally and quickly, they begin ruthlessly to purge the country of all elements opposed to them and are determined "to uproot everything of the contaminated past."

There's evidence that something of a "Reign of Terror and Virtue" has begun in Cuba. The government has seized private property without compensation, shut down or taken over the newspapers, forbidden all political activity except its own, attacked the Church, and tripled the police force.

Eventually, says Brinton, all reigns of terror and virtue pass. He observes that "large numbers of men can stand only so much interference with the routines and rituals of their daily existence."

- **Recovery to Follow?**—Then comes the period of convalescence called "Thermidor." In this stage, we see amnesty for the ousted moderates, the return of the Church, the relaxation of Puritanical restraints, and often the restoration of a government not unlike the old regime.

Whether the Cuban revolution will run the full course that Brinton describes remains to be seen. It is already caught up in forces that could radically alter its course. Unlike the four classic revolutionary nations, Cuba is immersed in an international political struggle between the U.S. and the U.S.S.R. This may well be more influential in shaping the future course of its revolution than its own internal trends.

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Information about S & V magnetic inks, which are available in black and colors, may be secured by writing: Sinclair and Valentine Co., Division of American-Marietta Company, 611 West 129th St., New York 27, N. Y.

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Taiwan's New Law to Attract Capital Stirs Interest Among U.S. Companies

Taiwan's passage, Aug. 31, of legislation designed to induce a flow of foreign capital has stirred "interest from more than a dozen U.S. companies," say Chinese and U.S. officials on Taiwan. Though the names of the companies are not being released for "competitive reasons," some of them are said to be Kaiser Steel Corp., Kaiser Aluminum & Chemical Corp., Hawaiian Pineapple Co., Ltd., and Champion Paper & Fibre Co. A few weeks ago (BW—Aug. 13 '60, p95) American Cyanamid Co. and the Taiwan Sugar Corp. formed a subsidiary to manufacture antibiotics.

At present, the Taiwan government prefers joint ventures between itself and an investing company. The government's share of a new investment, which can give it as much as 49% ownership of a new venture, would come in the form of contributions of public lands, engineering and technical services, and relinquishing import duties it would ordinarily collect on machinery and equipment. When an "enterprise has reached normal operation," the government will sell its share of ownership.

The new legislation will remain in force until Dec. 31, 1970, and covers investments in manufacturing, mining, agriculture, forestry, logging, fishing, livestock, transportation, utilities, hotels, and housing.

Some of the inducements are:

- A five-year income tax exemption for new companies.
- Remittance of profits in full.
- A maximum business income tax of 18%, nearly half of the former 32.5% rate.
- Tax exemption on re-invested profits up to 25% of total income.
- A 2% deduction on earnings derived from exporting.
- Permission for investors to take 15% of their capital out of Taiwan each year after two years.

. . .

Courtaulds Announces Major Expansion In British Synthetic Fiber Race

In Britain, the struggle in production of synthetic fibers revolves around three companies: du Pont, which makes Orlon; Chemstrand, Ltd., which makes Acrilan; and Courtaulds, Ltd., which makes Courtelle. Last week, Courtaulds announced plans to boost capacity, which, though no surprise in themselves, were unexpected in scope.

Altogether, Courtaulds is planning to boost production capacity of its acrylic fiber in England and France from the current 12-million lb. a year to 42-million by 1962. The company's first commercial plant, which can produce a maximum of only 2-million lb. a year, was

opened in Coventry in 1957. A plant in Grimsby has a capacity of 10-million lb.

Some time ago, Courtaulds announced it would build a second 10-million-lb. plant at Grimsby, now announces a third 10-million-lb. plant for Grimsby. Thus, capacity in England alone would amount to 32-million lb. But Courtaulds had more surprises. Though it had been known the company was in the late stages of constructing a plant at Calais, Courtaulds reveals now that capacity there, too, will be 10-million lb.

One reason for the size of the expansion, says Courtaulds, is the establishment of a big market in knitted outerwear and double jersey fabrics. Another is that the use of Courtelle in dress cloths, carpets, and hand-knitting yarns is "steadily expanding."

. . .

British Real Estate Man Is Negotiating For Lease at Wall Street Building

Another British real estate development company, City & Central Investments, is moving into the New York market. The company, headed by Charles Clore, built London's tallest aluminum-framed, glass-walled office structure and also developed a number of London sites. Clore is negotiating for a 99-year lease at 40 Wall St., which the Chase Manhattan Bank is vacating. Another British real estate man, Jack Cotton, recently took a financial share in construction of Grand Central City, which investment builder Erwin Wolfson (BW—Sep. 10 '60, p110) plans as the world's largest commercial office building.

. . .

South African Reserves Hit Danger Point As Gold, Foreign Exchange Holdings Drop

Ever since racial violence upset foreign investors' confidence last March, South Africa's gold and foreign exchange holdings have been dropping. Bankers warned the Nationalist government that the drain should be plugged before the holdings went below £100-million (\$280-million). Last week, the South African Reserve Bank disclosed holdings had dropped below the danger point, that they stood at \$273.6-million.

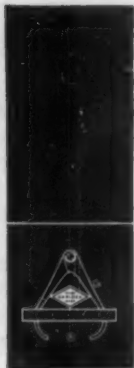
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Business Abroad Briefs

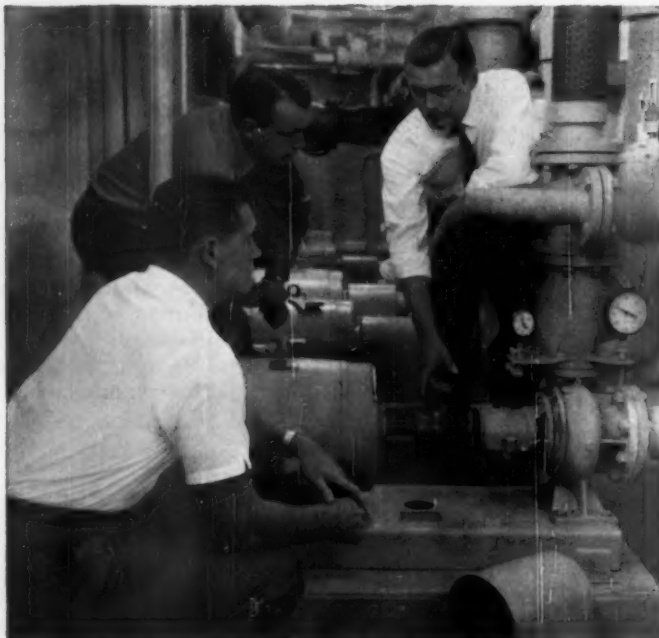
The Commerce Dept. denied export privileges to a British company, Gee & Garnham, Ltd., of London, for sending \$15,000 worth of automotive crankshafts to Communist China in violation of U.S. controls on exports to the Communist bloc.

Despite bitter opposition of Arab League nations, the World Bank lent Israel \$2.75-million to help build a deep-water port on the Mediterranean Sea at Ashdod.

The Soviet Union may enter bids against Western manufacturers to sell generating and transforming equipment to Australia for planned hydroelectric projects.



HOW INDUSTRY BENEFITS FROM GARLOCK SERVICE



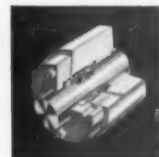
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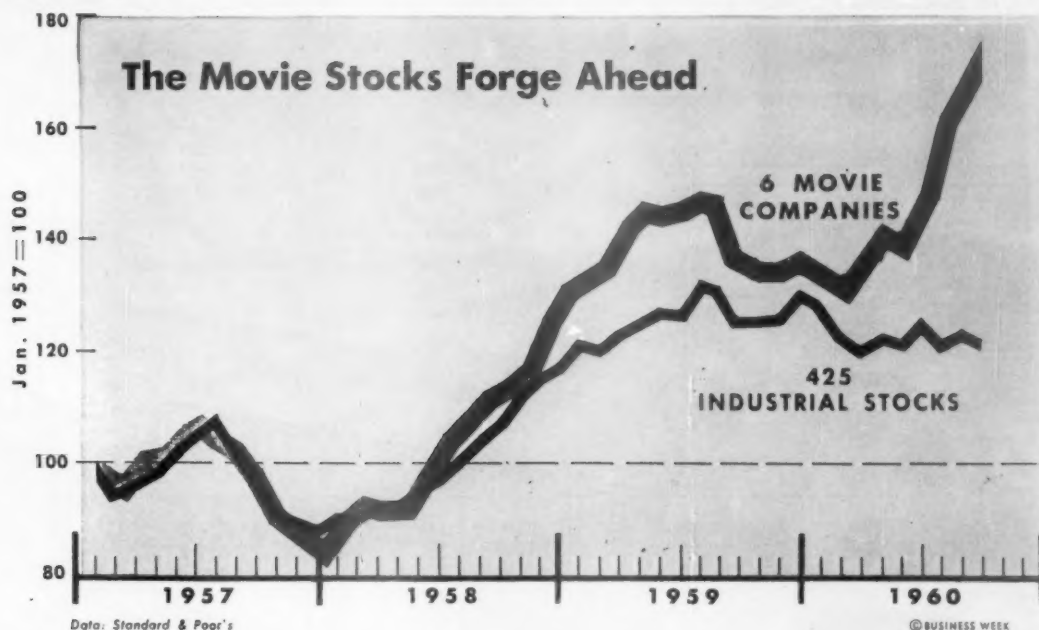
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THE MARKETS



It's "Side" Assets That Count

Wall Street scents a golden harvest in film company shares, as big producers sell off unneeded real estate and let not-too-old films go to TV. Other movie makers are diversifying into all sorts of fields.

Wall Street, which loves to hunt for hidden values, feels it has found a situation made to order in Hollywood in the shares of the leading movie producers (chart). Those who are bidding up movie stocks are betting on several things:

- The producing companies carry their film libraries—worth hundreds of millions of dollars when sold or leased to TV—on their balance sheets at the nominal value of \$1 per film.

- Most of the major motion picture outfits have valuable real estate holdings in the Los Angeles area, much of it no longer needed for film production. In recent weeks, for instance, Columbia Pictures sold 34.5 acres for about \$1.7-million (cost of the land: \$86,000). And 20th Century-Fox should benefit now that the Aluminum Co. of America has taken a 40% interest in the \$300-million "Century City" project. In addition, oil has been found on several movie properties, including the Fox lot.

- Pay-TV, if and when it ever comes on a nationwide scale, should make the film companies' huge investment in production facilities—currently largely idle, in part because of strikes

earlier this year—worth its weight in gold. Pay-TV is expected to rely heavily on the kind of full-length feature material in which Hollywood has long specialized.

- A few film companies—Paramount, in particular—have diversified out of the entertainment business. Paramount has important stock holdings in Fairchild Camera & Instrument and in Telemeter Magnetics, Inc., which is currently in merger negotiations with Ampex.

As the film companies have cashed in on outside assets, there has been a minor boom in their shares, which have far outpaced the general market. As one stock analyst put it, "There isn't one of those movie companies that isn't worth more dead than alive."

- **Aided by Slump**—The spurt of movie shares is partially a result of the over-all slump in the market. When the general trend is down, analysts start hunting for special situations, and they have come up with the movie stock group as one of the most promising. Leading brokerages—which more often follow market opinion than lead it—are putting out one study after another on the film makers.

But it's not all so wonderful as it seems. Film shares have been deeply depressed for years, partly because of the antitrust actions that forced divorce of theater operations from film productions, partly because of the impact of TV, which brought a steep decline in attendance. With all the recent rise in film stocks, they are still selling only slightly over their highs of 1946, and are far below their 1929 peaks. But a turn may be in the making. For Hollywood has finally learned to live with TV, and theater operations have turned out to be not quite so vital to film profits as was once supposed.

- **TV Invaded**—After fighting TV for years, the film producers have now been joining a force they couldn't lick. They have jumped into the television business with both feet. They are not only selling their old products, originally produced for theater distribution, to TV, but they are also making films and commercials directly for TV, as well as buying up TV stations.

"We were six years late in getting into television," says the president of one of the largest film companies. "But now we're in, and we intend to stay there."

The importance of TV profits to the movie makers, of course, has been growing. At Metro-Goldwyn-Mayer, for example, TV revenues amount to only 10% of gross income but account for over 40% of profits. Columbia, which has been troubled

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with big losses in its over-all operation in recent years, has been helped greatly by profits from Screen Gems, Inc., its subsidiary that produces and distributes films for TV. (There are rumors on Wall Street that Screen Gems may shortly sell stock to the public. Columbia officials admit they are actively considering the move, and that it should help Screen Gems in obtaining financing.)

Moreover, profits from the post-1948 film library, disposition of which was cleared by labor negotiations this spring, are just starting to come in. So far, Warner Bros. is the only company that has made a deal on post-1948 films. But others are expected to sell or lease their films soon.

The expansion of TV profits should help offset an expected slump in income from real estate. Among the majors, only MGM has a substantial amount of land (about 70 acres) to sell or lease out to developers. But MGM, which is loaded with liquid assets at present, is in no hurry to cash in this big asset.

• **Fewer and Better**—The film companies also have learned that with fewer, higher-grade pictures it's possible to make a profit in today's movie market. Thus, the number of feature films produced by Hollywood has been dropping steadily, but the total dollar amount spent has been steady, or in a few cases, climbing. (Similarly, despite a 50% drop in theater attendance, higher ticket prices have kept revenues close to record levels.)

This has led to the cult of the "blockbuster," the massive screen extravaganza, costing anywhere from \$5-million to \$15-million or more. The Ten Commandments, for which Paramount laid out \$14-million in production costs and has already grossed \$48-million, set the pattern. Ben-Hur, the \$15.3-million MGM production that promises to be the highest grossing picture so far, and Spartacus, the \$12-million Universal-International epic of ancient Rome, have followed—hoping for equal success.

In addition, a new generation of management has taken over at most of the film studios—men like Joseph R. Vogel at MGM, Milton R. Rackmil at Decca-Universal, and lawyer Arthur B. Krim, who heads United Artists. With these new managers has come a corps of tough, cost-conscious financial executives, that has pared overhead to the bone and instituted a tight system of controls over costs.

• **Quick Action**—Robert H. O'Brien, vice-president-treasurer of MGM is typical of this group. "We have checks on everything," he says, and "when a picture looks like it isn't going to do well, we charge it off right away." He adds: "We don't let the losses lie around to come back and haunt us in future years."

Here's How the Leading Film Producers Shape Up Financially...

COMPANY	REVENUES	PROFITS	PROFIT MARGIN	RECENT PRICE	PRICE/EARNINGS RATIO*
	(most recent reported fiscal year) Millions of Dollars	Percent	Percent	Dollars	
Allied Artists	\$15.4	d\$.26	—	5%	4.5
Columbia	115.8	.15**	.1%	24%	25
Decca Records†	79.9	2.3	2.9	33%	8.3
Metro-Goldwyn-Mayer	131.0	7.7	5.9	39%	10.5
Paramount	115.2	7.5††	6.5	62%	13.8
Twentieth Cent.-Fox ...	119.9	4.2#	3.5	43	19.1
United Artists.....	95.4	4.1	4.3	32%	11.7
Walt Disney	58.4	3.4	5.8	30	40
Warner Bros.	90.2	15.9‡	18.2	51%	13.7

* Based on earnings estimates for current fiscal periods.

** Including profit of \$2.6-million from sale of film laboratory.

† Controls Universal Pictures, Inc.

Including profit of \$1.8-million from sale of studio properties.

‡ Including profit of \$7.9-million from sale of assets.

†† Including \$3.1-million profit from disposal of films to TV and sales of other investments.

Data: BUSINESS WEEK

d—deficit

©BUSINESS WEEK

(Many film men regard United Artists, which owns no production facilities, as an "ideal" operation for the depressed movie industry. UA acts principally as banker and distributor for its productions. It's one of the few film companies to show sharp growth during the 1950s. Sales jumped from \$44-million in 1954 to well over \$100-million this year. Columbia, although it has a substantial investment in studios, has also followed the UA pattern in catering to the independent film producers, who take the major share of film production these days.)

In spite of the genuine improvement in operating results, and the fact that the blockbusters, when they click, do mean big profits for a film company, investors have not been impressed with the motion picture business; it's the other assets that count. One film executive, who was invited recently by a New York Stock Exchange firm to talk about his company to a group of investment managers in Boston, recalls "a complete disinterest in our film operations. The only thing they wanted to hear about was our diversification program, and what we are doing in electronics."

• **Institutional Snubs**—Over-all, the film companies have remained unpopular with institutional investment managers, who generally buy for the long pull and are rarely interested in "special situations" or in "asset plays." Only three mutual funds have commitments of any size in the film industry. "The film companies are much too speculative for us," says one trust manager. "I regard them as a totally unsatisfactory investment medium."

But individual investors, working

largely on the theory that as the film companies cashed in assets, shareholders were bound to benefit, haven't gone along with this negative appraisal. In the last few months they haven't been disappointed.

One reason is that most of the film majors have been buying in their own stock, with the proceeds of land sales or disposal of films to TV. Paramount's capitalization has shrunk from 3.3-million shares outstanding in 1950 to 1.7-million today. Warner Bros. has also been buying its stock steadily, and Universal Pictures' floating supply of stock has dropped so low because of company buying that the New York Stock Exchange is considering delisting it. (Universal is over 87% controlled by Decca Records, Inc. Not only has Decca bought Universal shares, but in a reverse twist Universal recently purchased some 240,000 shares of Decca.)

• **Per Share Gains**—The result of these shrinking capitalizations has been that per share earnings have remained high in spite of lower total earnings. Moreover, company buying has helped to support the stock prices. (The Securities & Exchange Commission, to prevent prices from running away as a result of this buying, required that Paramount's purchases be only on the "downtick"—in other words, any time that Paramount bought, it had to do its purchasing at least 1/8th of a point below the previous sale on the NYSE.)

In effect, the buying of their own stock by the film companies would seem to be a partial liquidation. Assets, which the companies no longer need, are distributed to stockholders. This impression is misleading. Even with the cash

distributions, the film makers are still very much in business.

Paramount, which was the first to start buying its stock in quantity and has bought more than any other company, is a case in point. Says Paul Raibourn, Paramount vice-president, "In 1950, when we had to sell off our theaters, we took a look at the business and decided that it couldn't consistently support a \$2 dividend with 3.3-million shares outstanding."

Paramount's answer, according to Raibourn, was to go out and borrow \$20-million from the Prudential Insurance Co. to help finance stock repurchases. With part of the \$20-million, Paramount bought in about 750,000 of its shares. "We were lucky that our stock was selling as low as it was [between \$18 and \$20 a share], or we never could have done it," he adds.

• **Diversification**—Since that time, Paramount has continued to sell off assets "that weren't necessary to the business," and buy in its own stock. It also embarked on the most ambitious diversification program of any movie company. Paramount's program, according to one observer, is aimed at operating "in 75¢ dollars, not 50¢ dollars." This is a reference to the fact that Para-

mount over the years has managed to build a steady flow of capital gains income, which is subject to federal taxes of 25%, rather than the 52% rate that is applicable on regular corporate income.

Paramount officials confirm that this, indeed, has been their philosophy. They imply, although they refuse to state, that the company may be considering sale of its investments in Fairchild and Ampex—assuming the Telemeter merger goes through. Whether Paramount will then turn around and make further investments in electronics, or will distribute the profits to its shareholders, remains to be seen. As Raibourn puts it: "It would depend on what we think is best for the shareholders."

It's clear that the film companies are going to keep on making big, expensive motion pictures, on the style of Ben-Hur. Where they pay off, shareholders should do very well. But for the film industry generally, it's likely that stockholder profits will depend increasingly on sales to television, liquidation of real estate, or profitable side ventures. For as yet there's no sign that the public is ready to change its tendency for staying home with TV, rather than going out to the movies.

Wall St. Talks . . .

. . . about Webb & Knapp's sales, foreign debt issues, new mutual fund pattern, New York bank pinch.

Webb & Knapp's William Zeckendorf continues to dispose of his holdings (BW—Sep. 3'60, p43). This week he sold W&K's 99-year lease on the 71-story 40 Wall Street building to City and Central Investments for an undisclosed amount (page 171); he then sold his 200-year lease on the swank St. Regis Hotel to a Mexican chain for a reported \$5-million to \$6-million. All told, Zeckendorf has reportedly raised over \$30-million in selling off leases and real estate.

Several underwriters report they are talking with foreign governments and foreign corporations interested in floating dollar debt issues here because interest rates are much lower in the U.S. than abroad. But if heavy foreign borrowing develops, it could mean a bigger drain on our gold stock.

A new pattern may be emerging in mutual funds—selling shares for stock instead of cash. Denver's Centennial Fund, Inc., (BW—Jul. 30'60, p96) started the trend by swapping its shares, tax free, for \$25-million worth of stock. Now Congress Street Fund, a Boston outfit, is getting ready to do the same thing. The advantage is that investors with big capital gains can get diversification, without having to pay capital gains taxes.

Although the banking system is in a position of "statistical" ease, big New York City banks report that they are still being pinched, not by any rise in loan demand, but because, as Aubrey G. Lanson & Co., Inc., puts it, a "larger than normal portion of the funds" released by the Federal Reserve in its easing moves are "in the hands of the country banks." Some New York bankers say that the Fed will help out by providing more funds through open market operations in the next few weeks.

In the past two weeks, shares of Real Estate Investment Trust Co. of America have jumped from 13 to 19 on the American Exchange. Brokers say the reason for the jump is a rider tacked on to the cigar excise tax bill recently passed by Congress. This enables real estate investment trusts to avoid corporate income taxes by distributing all of their taxable income to shareholders, and could virtually double the payout to REIT shareholders.

Investing the Discount on Drugs

Retailers sign up for Smith, Kline & French plan that puts into mutual funds the 2% they get for quick payment.

A Philadelphia wholesale drug company—Smith, Kline & French, Inc.—has taken the wraps off an unusual investment plan aimed at increasing consumer loyalty, reducing accounts receivable, and boosting sales and profits. This is no mean feat in a trade as ruggedly competitive as the wholesale drug business. At the same time, the plan could open a whole new field for the mutual fund industry, another beneficiary.

• **The Plan**—SK&F, Inc., a wholly owned subsidiary of Smith, Kline & French Laboratories, initiated the plan late last year, after two years of study, to speed up payments and tie its retailers closer to it. It kept the plan quiet until now, partly to keep competitors out, partly because it is sensitive about the plan's standing under the security sales laws.

SK&F offers to earmark for investment—rather than pay cash—the 2% discount that each of its 2,000 retailers are entitled to for fast payment. The retail druggist then tells a brokerage house (Smith, Barney & Co.) which shares of two mutual funds (Wellington Fund or Wellington Equity Fund) he wishes to buy with his discount money. SK&F pays the brokerage fees and the

charges of the custodian bank.

To qualify for the SK&F plan, a druggist must handle \$1,500 of business with the company—and pay his bills within the discount period. That minimum, at the 2% discount, would provide for a quarterly investment of \$30.

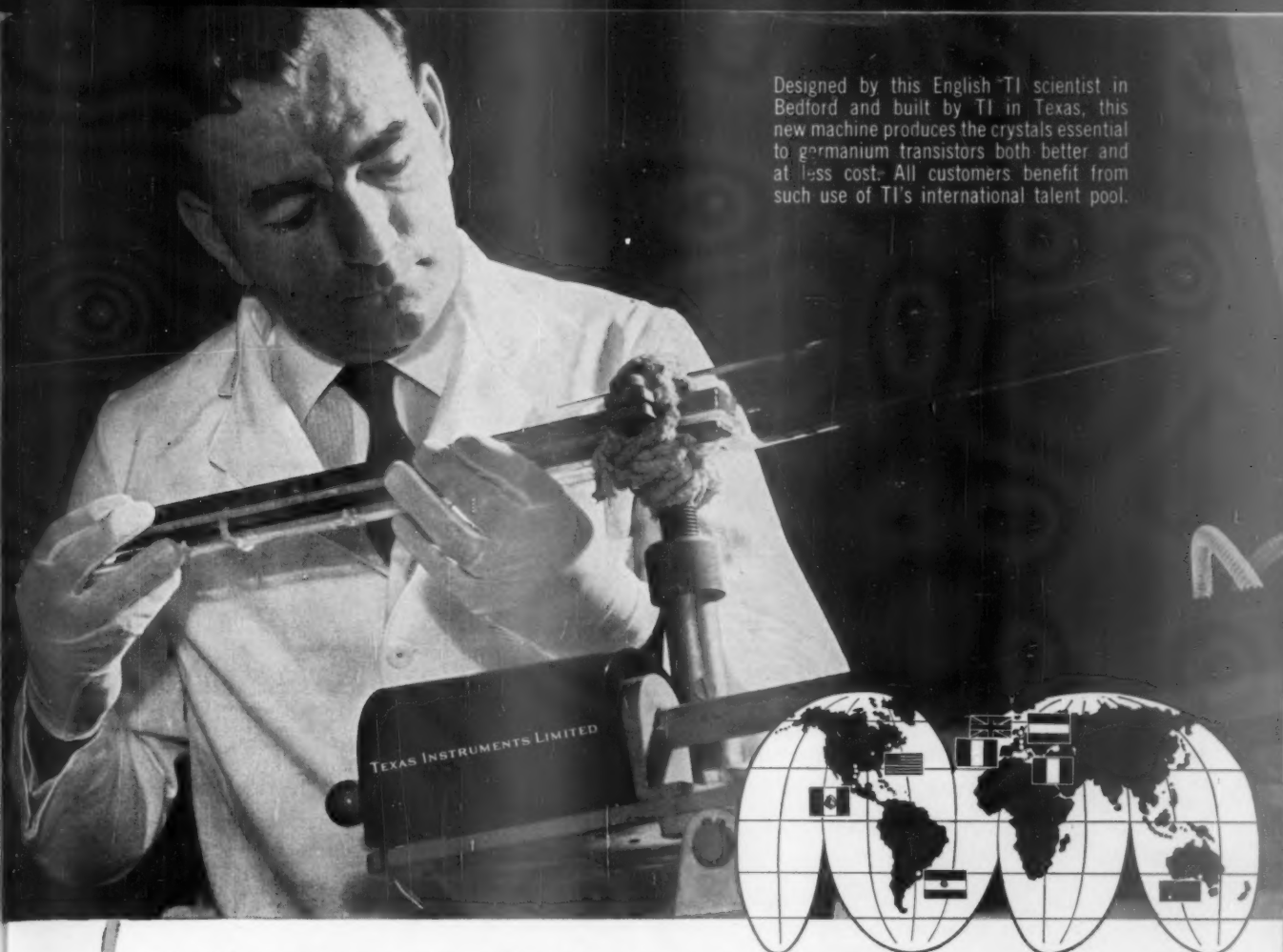
The minimum was no arbitrary figure. H. C. Van Arsdale, executive vice-president of SK&F, Inc., explains that "All of them buy at least that much quarterly, but they buy from other wholesalers, too."

This, of course, is a key point of the plan. Obviously, SK&F hopes to get more druggists to deal with it exclusively. Smaller druggists—those who buy, say, \$1,500 quarterly—may have to deal solely with SK&F to be eligible, while larger operators may want to send more business to SK&F to increase the size of their investments.

• **Signing Up**—Van Arsdale says that up to the end of July, 702 out of 1,488 druggists who saw the plan signed up. Volume figures of shares purchased are known to be fairly substantial.

Several other distributors in the Philadelphia area, meanwhile, have made inquiries about setting up their own fund share program; a few already are setting up their own plans.

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In the Markets

. . .

Industrials Average Manages to Cling Above the 600 That's Called Peril Point

The stock market showed no strength this week, although the Dow-Jones industrial average just managed to stay above the 600 level, which most analysts and technicians regard as a crucial testing point. They feel that if the index once again declines to 600, which it has done three times this year, there is a real risk of a steep dive—to 550 or even lower. But if the index manages to hold then, say the technicians, it will be a buying signal.

Many institutional and individual investors, who pay little attention to technical signs, are being very circumspect in their purchases. Most big investors continue to favor utilities, which they think have both defensive and growth characteristics, but are being extremely selective in buying other groups.

There's no question that this is a testing time for the market. Given the shattering of earlier expectations, and the shrinking profit margins shown by business, the market has given a surprisingly good account of itself. Investors have hoped that the fourth quarter would show an upturn, and that the sideward movement of the economy would be followed by a rise. If this happens, interest in stocks should increase; but if the economy continues to disappoint investors, a sharp drop may commence.

. . .

Chance of Alleghany Proxy Fight Looms As Kirby's Feud With Murchisons Flares

The feud between Allan P. Kirby, head of Alleghany Corp., and the Murchinson family of Texas is coming to a boil—and may burst into a bitter proxy fight.

The Murchisons—John D. and Clint W., Jr.—have been irate at Kirby's handling of Investors Diversified Services, Alleghany's big investment company, since Kirby took over at the beginning of the year. Control of IDS reverted to Alleghany-Kirby—from the Murchison interests last December when Kirby made a sudden out-of-court settlement of a drawn-out stockholder suit initiated by Randolph Phillips, a former Alleghany consultant (BW—Jan. 2 '60, p80).

Since then, the Murchisons have quietly increased their stock holdings in Alleghany to exert pressure on Kirby. Their buying prompted IDS to call for the Murchison's removal from IDS's board.

The feud seems to center on Kirby's increased influence on the management operations of IDS. A symptom of this is the role now being played by Randolph Phillips. Phillips fell out with Young and Kirby after they won control of the New York Central, later brought his suit that led to the settlement that forced the Murchisons out of IDS. Then, he apparently made his peace

with Kirby, and was named chairman of IDS's law and finance committees.

Last week, the Murchisons filed a suit charging that Kirby and Phillips had conspired to arrange the out-of-court settlement last year—with Phillips getting an IDS directorship as reward. The Murchisons asked the court to bar Phillips from his new position.

. . .

Goal Still Far Off, So Chesapeake Extends Deadline in Bid for B&O

The Chesapeake & Ohio reached the Sept. 12 deadline of its bid for control of the Baltimore & Ohio this week, but it was still far short of its goal of winning 80% of the B&O's stock. B&O stockholders voted only about 29% of their stock for the C&O's offer. And so the C&O promptly decided to extend its offer through Nov. 30.

This move compounded the confusion of the battle between the C&O and the New York Central for the B&O (BW—Aug. 13 '60, p27). The first result was that the B&O's Pres. Howard Simpson said he was "keenly disappointed" by the extension because "it is apparent that the C&O is not interested in a prompt merger." C&O Pres. Walter Tuohy said "a three-way merger at this time is out."

The Central, whose offer expires Sept. 26, predicted neither side will win the battle for the B&O.

. . .

Sales of Stock by Its Officers Draws SEC Fire on Comptometer Corp.

Comptometer Corp. was in trouble with the Securities & Exchange Commission this week. The Chicago company's pronouncements—and those of TELautograph—three weeks ago on its Electrowriter machine sent its stock price soaring from 15½ to 30 (BW—Sep. 3 '60, p87). But this week it disclosed—on SEC prompting—that three of its officers recently sold Comptometer stock, some of it during the run-up. The company says the sellers deny any wrong-doing, but it admits that the sales may be a violation of the Securities Act.

In all, SEC challenges the sale of 45,969 shares. These sales may be a violation because the shares are part of securities the company seeks to register with SEC. Under the Securities Act, a company or its controlling stockholders cannot make a public sale of securities before the securities are actually cleared for sale.

The Comptometer officers who sold the shares acquired them originally in exchange for shares they held in companies acquired by Comptometer. This kind of deal is considered a private placement, and such shares do not have to be registered with the SEC until they are sold to the public. But any violation—willful or not—allows purchasers of the unregistered securities, among other things, to sue the individual sellers for recovery of the amount the purchasers paid, plus interest, in return for the securities.



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AUREOMYCIN® chlortetracycline: In formula feeds, it protects range cattle against disease through long, raw winters. Happy result — healthier cattle, highest quality beef for you.



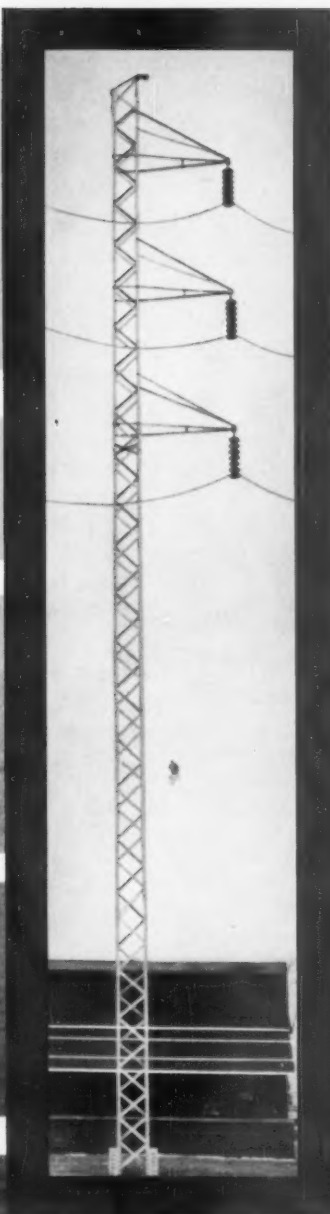
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Combining lightness and load power, the tower incorporates heat-treated Olin Aluminum extrusions in a design that fully exploits the advantages of aluminum. From Olin Aluminum also came valuable structural analysis data. If you, too, want to use aluminum more profitably in a new or proved design for any type product, consult Olin Aluminum.

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PERSONAL BUSINESS

BUSINESS WEEK

SEPT. 17, 1960



In the wake of Hurricane Donna (page 26) and with other destructive storms likely to strike this fall, property owners can take heart from the fact that the Treasury has softened two tough tax rules to give taxpayers more leeway in handling deductions for casualty losses.

Under new rules—

- You may deduct the cost of repairs made to damaged property—your house, car, etc.—and use your receipted bills as evidence of the cash outlay. In the past, the Treasury usually objected to repair cost as a measure of loss, and thus forced you to go to the trouble and expense of having the property appraised for its value “before” and “after.” (Limitation: You can deduct for repairs only to the extent they restore the property to its original condition.)

- You may postpone a loss deduction if you are uncertain about future compensation. Normally, of course, you deduct a loss the same year, adjusting for any insurance payoff received. But suppose (as frequently happens) you won't get insurance—or maybe money damages from a court action—until a later year, and the amounts are in doubt. Under the old rule, you had to claim the full loss in the year of damage, and then in the later year report any compensation as taxable income.

Now you get more freedom—you may postpone any tax deduction until the year when you actually get insurance or other compensation. However, if you know what a future insurance payoff will be, you deduct your net loss in the current year.

Determining a casualty loss deduction is often difficult. Here are some helpful pointers:

Defining your loss. Generally, a deductible loss must arise from some sudden, unexpected, or unusual cause—extreme heat or cold, drought, flood, storm, accident, fire, theft, etc. (Hurricane Donna would obviously qualify.) A new twist: “Sonic boom” from jet planes is regarded as a valid cause. “Progressive deterioration”—where you can see the cause unfolding and presumably take preventive action—doesn't count. Thus, the gradual weakening of a building foundation due to heavy winter weather isn't a deductible loss. An exception is termite damage, which gets by as a “sudden” casualty if it comes within a year.

A point that trips many people: Where you cause a loss to someone else through negligence, any money damages or legal expenses you pay in a lawsuit are strictly yours to bear—they aren't tax deductible.

Proving your loss. The burden here is on you. Photographs of the property before and after the damage, newspaper stories and pictures, police and fire department reports—all are acceptable to the Treasury as evidence. Collect your proof immediately, if possible. Proving a theft may be particularly tough; just your word isn't enough. Police reports, witness accounts, and newspaper stories are valuable. If you even suspect a theft, notify the police—failure to report may be used to show that you were doubtful your property was stolen.

Figuring your loss. Except for repair-cost cases, your loss usually is the difference between fair market value before the casualty and after. Appraisals in writing can help here; so can records of offers to buy the property that was later damaged or destroyed. Official auto price lists (“blue books”) may be used as guides to fix car values; but a trade-in offer won't do.

There's at least a thin silver lining for the taxpayer whose casualty loss is so great that it exceeds his income for the year. The loss in excess

PERSONAL BUSINESS (Continued)

BUSINESS WEEK

SEPT. 17, 1960

of current income can be carried back three years and forward five years, and, of course, used to create tax refund claims.

—●—

Are compact cars much cheaper to operate than standard models? You may be wondering, now that brand-new 1961 compacts (including Buick Special, Olds F-85, Pontiac Tempest) are about to appear in showrooms.

Under normal driving conditions, compacts generally are cheaper to run. That's why Detroit decided to build them—as its answer to rising sales of cheap-to-operate foreign cars.

Compacts, of course, haven't been selling long enough to make accurate comparisons with standard models. For one thing, nobody knows how compacts will sell in the used-car market. So depreciation is still partly a question mark. But heavy users of compacts already have some figures on costs to serve as a guide.

Aladdin Corp.—rent-a-car system in Detroit—has been using 1960 Ford Falcons for three months. Falcons average 20 to 25 miles per gallon, it says, compared to about 17 for 1960 Ford Fairlane 500s and 1959 Ford Customs. If you figure depreciation on a three-year basis, Falcons drop \$40 monthly in value; the bigger Fords, about \$50.

Runzheimer & Co.—a Chicago consultant that advises companies on car-expense allowance—has tested a Falcon sedan against a 1960 six-cylinder Chevrolet Belair in city conditions. Results: on miles per gallon, 21 for the Falcon vs. 14 for the Belair; gas-and-oil costs per mile (figuring gas prices at 33.9¢), 1.78¢ vs. 2.57¢; maintenance per mile, .70¢ vs. .75¢.

Over-all it costs 2.8¢ per mile to run a Falcon against 3.7¢ for the Belair, says Runzheimer. Besides that, annual insurance is lower—\$187.22 for the Falcon compared to the Belair's \$225.58. Estimated annual rate of depreciation, based on trade-ins at the end of either 30 months or 45,000 "business" miles: \$512 for the Falcon vs. \$636 for the Belair.

But costs depend a lot, too, on how much you drive and what you need to carry with you. You can't load a compact like a pickup truck or standard-model sedan. And—Detroit claims—it's hard to beat the big car's performance if you drive, say, 40,000 miles a year.

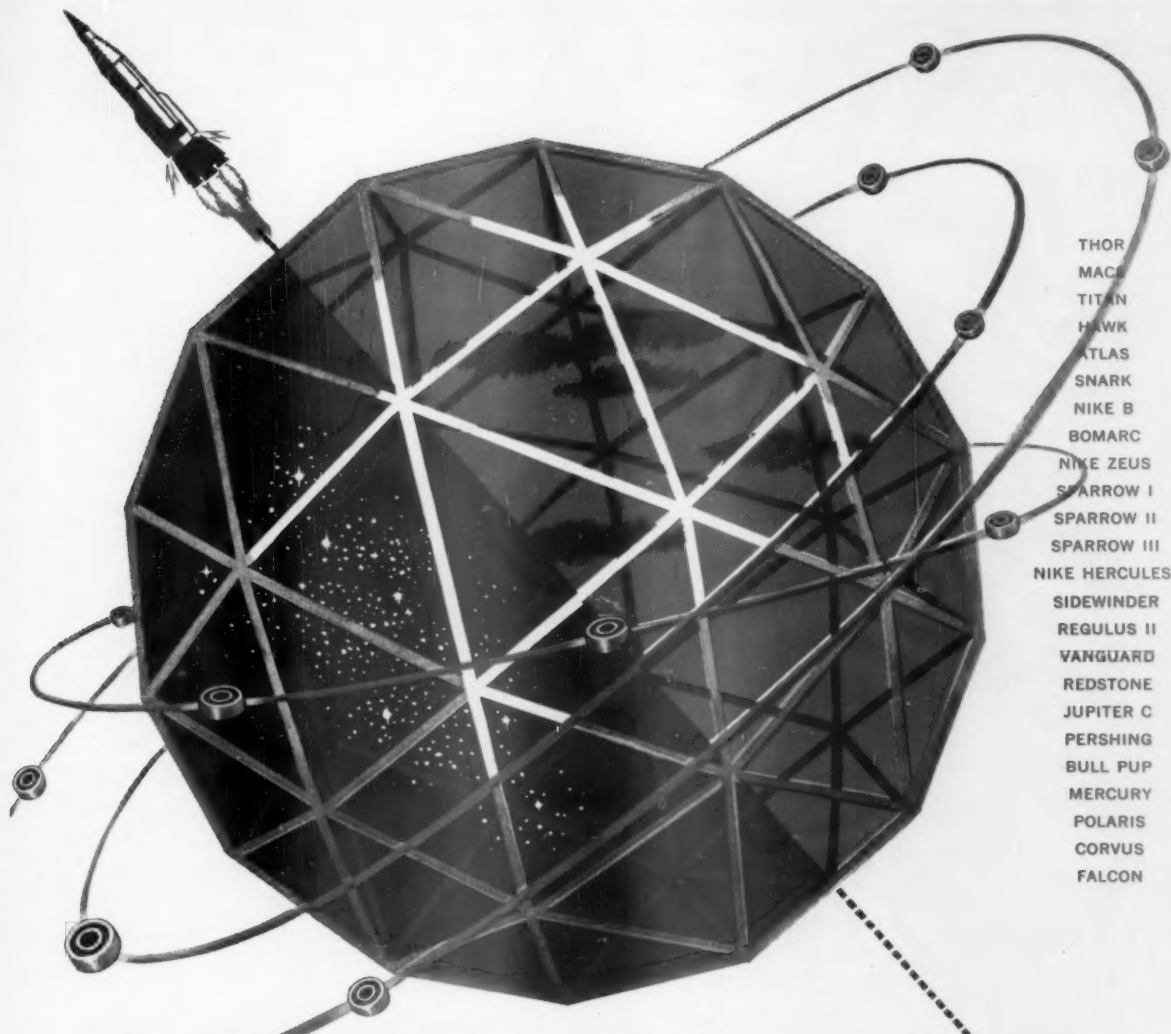
—●—

Forecasts point to a lively hunting season this fall. A 48-state survey by Winchester-Western provides this rundown:

Small game—rabbit, squirrel, and grouse—is a bit more plentiful than last season in most places. Ring-necked pheasant should be heavy, too, in all sections except Illinois and Indiana. The wild turkey supply may be off in some areas, but you can expect a fair number to be running in the East and Midwest. Quail will be in good supply—like last year—except in the Midwest.

Big game generally is more abundant than in 1959. Highlights: a larger deer herd; more moose in Ontario hunting areas; more mountain sheep in New Mexico; and greater numbers of javelina in Texas and European boar in Tennessee. Observers in Ohio, New Mexico, and California look for larger elk herds. From Wyoming, South Dakota, Texas, Nebraska, Arizona, and Kansas come reports of an increased number of antelopes.

Bear hunters will find the prospects about the same as last year.



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REGIONS



HOUSTON is getting an increasing migration of oil companies, and builders are busy keeping up with demand for more office space.

New Office Towers Change Face of U



A visitor who hadn't seen Dallas (cover) since the war would hardly recognize its skyline, and the same is true of several other U.S. cities. The postwar mushrooming of downtown office buildings has completely changed city silhouettes. Old landmarks have been obscured, if not torn down to make way for new buildings.

Even New York, whose skyline is familiar worldwide, can puzzle a visitor returning after 10 years or so. Its once isolated groups of towers suddenly seem

SAN FRANCISCO got its first major new building in 20-odd years in 1955 when Equitable (left) built a regional office.



of U.S. Cities

shortened and hard to pick out of the undergrowth of 20- and 30-story medium skyscrapers, the most popular size in recent years.

Dallas and New York have done the most building of offices, but eight other cities can be counted as active on a large scale. It isn't always the biggest cities that do the most building; eight or nine of the biggest have scarcely changed their skylines in 10 or 20 years.

• **National Boom**—Since 1950, the

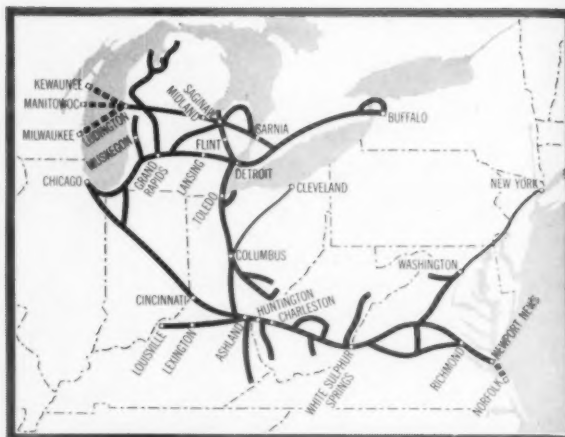
LOS ANGELES is sprouting new offices along Wilshire Boulevard, including one of the six Tishman buildings in the city.



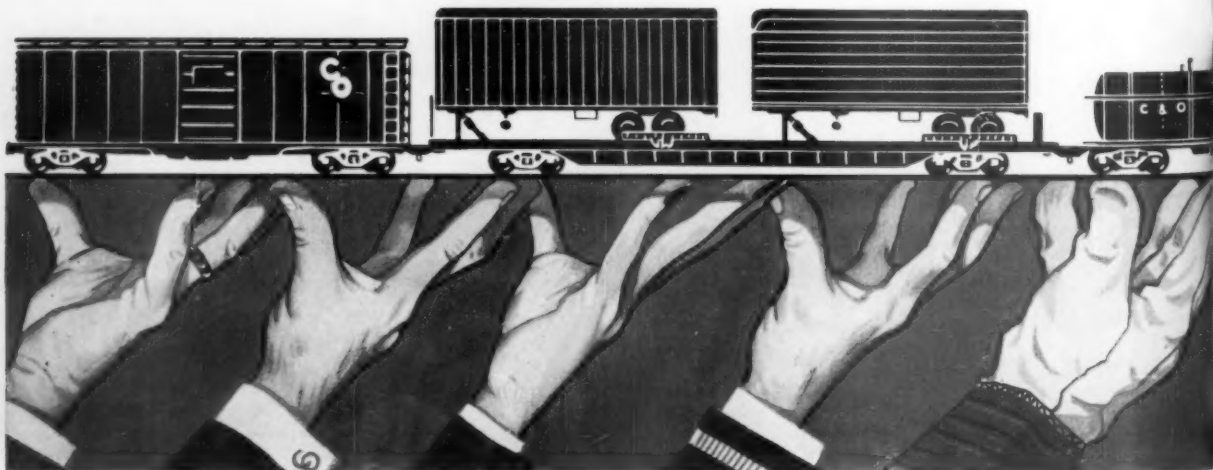
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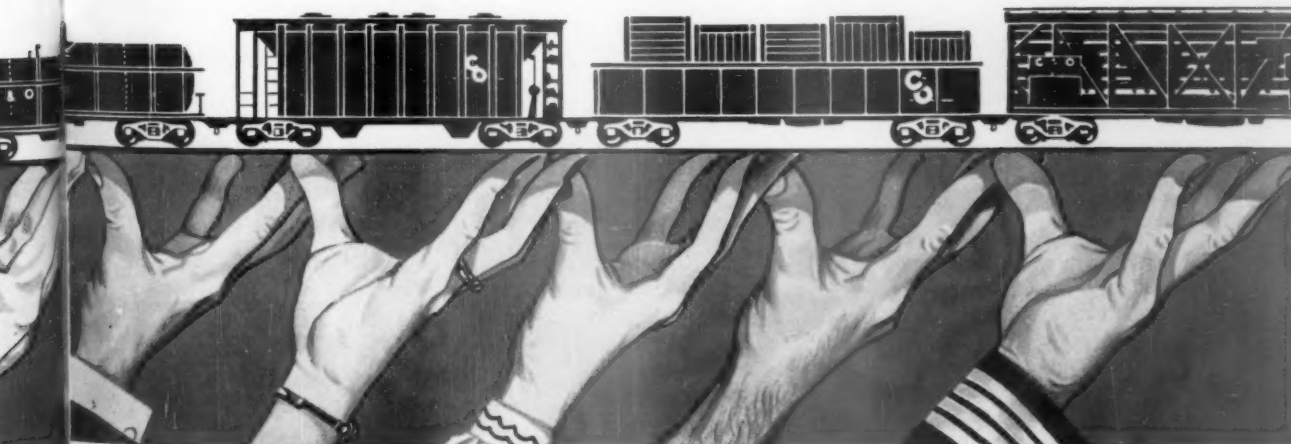
Outstandability in Transportation

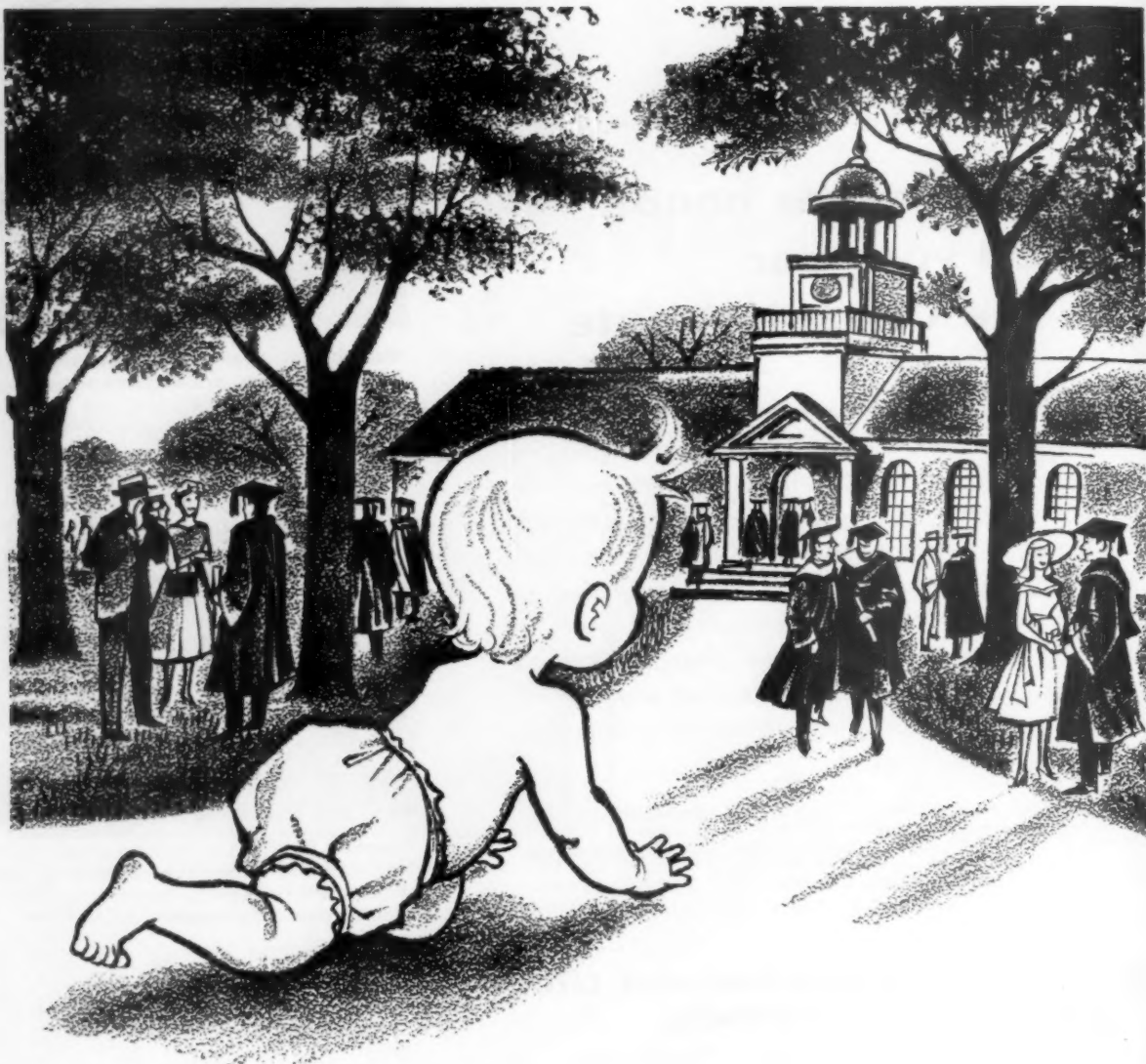


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Census Bureau says \$10-billion worth of private office buildings have been built. And the pace has been accelerating. In the last three years alone, the annual rate has averaged \$1.5-billion. This doesn't include the many new federal, state, and city government buildings.

Mere growth of the economy doesn't account for all this activity:

- Office workers—clerical, professional, and managerial—today make up a larger proportion of the labor force than ever before.

- These clerical workers as a group take up more space than ever before—not for themselves (compact furniture arrangements actually reduce the square footage devoted to people) but for the new business machinery that has become essential and for auditoriums and cafeterias.

- Technological advances have set new standards for buildings. With modern lighting and air conditioning, office workers no longer have to be near windows, so floors can be larger.

- **Chance for Profits**—Because of such factors as these, real estate men have seen a chance to turn a profit by speculative building. Companies, too, have capitalized on the surge of demand by putting up buildings larger than they'll need in the foreseeable future, then getting their own space virtually free by renting the surplus floors to other tenants.


These pressures and incentives, however, differ from one major city to another. In older, more stable areas, demand for more space has often lagged, and companies based in such cities may be content with remodeling their old quarters. In faster-growing areas, the building of new space to meet demand reflects a general boom.

- **How Cities Rank**—In the working of such influences, New York—as mature a business headquarters city as there is in the U.S.—turns out to be even faster-growing than Dallas, one of the nation's newest business centers. In Manhattan alone, according to the New York Real Estate Board, 34.8-million sq. ft. of office space has been added since the war. That's as much as exists in all of Chicago.

From reports and estimates, the National Assn. of Building Owners & Managers rates Dallas next with 8.2-million sq. ft. since 1945; Chicago, 5.2-million sq. ft.; Houston, 3.6-million sq. ft.; Pittsburgh, Los Angeles, and Washington, between 2-million and 3-million sq. ft. each.

I. The Leading Cities

New York's new buildings are both bigger and more numerous than anywhere else. Since the war, 117 buildings have been completed, and another



PITTSBURGH has a Manhattan-like concentration of up-to-date skyscrapers. At center is the U.S. Steel-Mellon National Bank Building; at right, Aluminum Co. of America.

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30 that are on the way will push the postwar volume past 50-million sq. ft.

A building with 1-million sq. ft. of office space is a giant, but New York has completed five of those since the war: Time & Life (1.5-million sq. ft.), Socony Mobil, 2 Broadway, Union Carbide, and Tishman. Four others are under way: Grand Central City (with 2.4-million sq. ft. the world's largest office building), the new Chase Manhattan Bank home office, the Equitable Life Assurance Society's home office at Rockefeller Center, and the First National City Bank's Park Avenue office.

New York's office boom surpasses the rate of the only comparable period: 1925-33, when the Empire State building was built and Rockefeller Center was started. But there seems to be no end to the demand for new space; the vacancy rate is still well below the national average of 5.3%.

Who fills all the new offices in New York? To begin with, the city is national headquarters for more companies than any other city, and these companies are both expanding and upgrading their accommodations. Around these companies is an expanding array of satellite services: financial, legal, advertising. Also, many out-of-town and foreign companies have found it necessary to establish branches in New York.

• **Dallas**—In proportion to population and to prewar volume of office space, the growth in Dallas is even more remarkable. The Texas city can't claim

many corporate national headquarters, but the region's growth has attracted many regional offices of national companies. More important, Dallas is the financial capital of the Southwest, and its banks and insurance companies are expanding.

Southland Life Insurance Co. built a 42-story office (cover) and rented 80% of its 467,000 sq. ft. for a higher net return than a trunkful of residential mortgages would yield. Fidelity Union Life put up two buildings totaling 730,000 sq. ft. Republic National Bank built a 36-story tower, and Mercantile National Bank tacked three annexes on its prewar building.

• **Chicago**—Prudential Insurance Co. of America started a new wave of building with its new regional office tower in 1955. Since then, two speculative buildings—Borg-Warner and LaSalle-Jackson—and several owner-occupied buildings have been completed or started: Inland Steel, Mercantile National Bank, Hartford Fire Insurance Co. Group, United Insurance Co. of America. Major additions have been made to the Federal Reserve Bank of Chicago and the Harris Trust & Savings Bank.

• **Houston**—Banking and oil-gas have generated most of Houston's recent office building, particularly since major oil companies have centered more of their operations there.

The largest projects of the last 10 years have been the Bank of the South-

west, Texas National Bank, and a regional office of Prudential Insurance Co. Those under construction include a 44-story building (tallest west of the Mississippi) for Humble Oil and others for Tennessee Gas Transmission and First City National Bank. The Hugh Roy Cullen estate has just begun a multi-building Cullen Center.

• **Pittsburgh**—Rescue of the Golden Triangle from blight helped spur construction of many big buildings. U. S. Steel Corp. (jointly with Mellon National Bank) and Aluminum Co. of America stand out among companies that built skyscrapers for their own use. Equitable Life built four for rental.

• **Los Angeles**—In 1956, Los Angeles removed the 150-ft. (or 13-story) height limit, and tall buildings sprang up along Wilshire Boulevard. The downtown boom started with the General Petroleum Building, followed by the Statler Hilton's office addition and the Superior Oil Building. During the 1950s, New York's Norman Tishman put up five "height limit" buildings, then more recently completed one of 22 stories. IBM, Texaco, and Travelers Insurance have built nearby.

A few miles west, in the Miracle Mile area, Prudential Insurance built a regional headquarters. Well beyond, in Westwood, A. S. Kirkeby has announced plans for a 15-story building.

• **Washington**—The volume of office construction in the nation's capital is masked by the 130-ft. height limita-

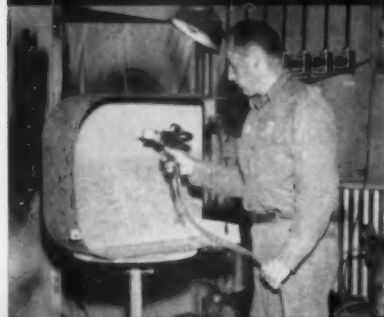
CHICAGO ranks third to New York and Dallas in postwar office construction. Prudential building (bottom center) started boom.



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ATLANTA has made a comeback in its central Five Points area, with half a dozen new major office buildings in the past four years. Offices had been moving toward suburbs.

tion, which makes buildings run to bulk rather than conspicuous height. Builders, led by Morris Cafritz, have been adding space largely to accommodate businesses, labor unions, trade associations, and others that want to be near the federal government. Federal agencies also rent some of the space in private buildings.

- **Atlanta**—The postwar boom in the Southeastern states first led to new buildings outside the downtown district of Atlanta. However, in 1956 Ben Massell put up a building for federal offices in the heart of the city. Since then, the Five Points area has gained the 31-story Bank of Georgia and the Fulton National Bank, both built by Leo Corrigan of Dallas; the First National Bank, the Commerce Building, built by Citizens & Southern National Bank primarily to use part for a garage next-door to the bank; Georgia Power Building, and America Fore Loyalty Group.

- **San Francisco**—Half a dozen years ago, Equitable Life started a new skyscraper for its regional offices, the first major new building in the city in more than 20 years. At least 10 good-sized buildings have been put up since then.

- **Denver**—Oil, mining, and defense growth in the Rocky Mountain area has led to a lot of construction in Denver, starting with the Farmers Union Building in 1953.

II. The Stand-Pat Cities

It's easy to explain why some cities have sprouted so many new towers, but it isn't so simple to explain why others haven't. Possible reasons:

- **Conservatism** of some corporations in some parts of the country. Says Norman Tishman, New York builder: "Ideas of speed and economy of operation don't seem to impress people in

some other cities as much as they do people in New York. Maybe they're nostalgic, or just lazy."

- Some large Eastern and Midwestern cities are economically so static that they don't attract new regional offices of national companies.

- **Civic inertia** and a dog-in-manger attitude of local owners and managers of property. Boosters and real estate men talk bitterly of the lack of local leadership in some cities, while landlords who see no need to replace or modernize their buildings do their best to obstruct builders from out of town.

- **Vacancy rates** run high in many cities, even without construction.

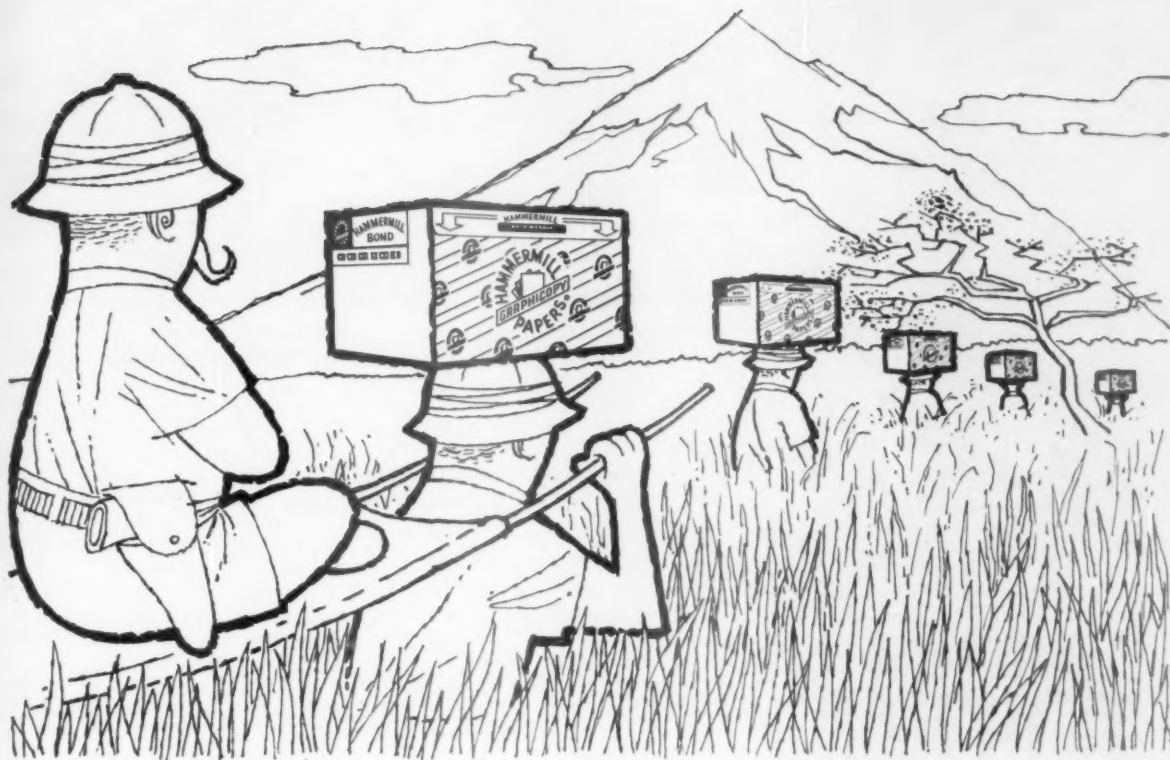
- **Moving Slowly**—Not all of these factors apply in any given city, of course. And some cities have their own special problems. Among the major cities where office construction has been moving slowly are:

- **Philadelphia**—No major building was done from the end of the war to 1956. Since then, four rental buildings have been completed—two by Uris Bros. of New York—and they were enough to turn the office space market from tightness to surplus.

- **Detroit**—Offices in this city are quite decentralized with the headquarters of auto companies scattered over the city and its suburbs. However, National Bank of Detroit has built one major downtown building, and Michigan Consolidated Gas Co. just started another.

- **Cleveland**—The only major new buildings downtown are two built by out-of-town investors for rental. Each has a utility company as major tenant: Cleveland Electric in the building put up by Jack D. Weiler of New York and Benjamin H. Swigg of San Francisco, and Ohio Gas in Tishman's East Ohio Building.

- **Minneapolis**—Only one major down-



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WASHINGTON has had a private office building boom that's inconspicuous because of 130-ft. height limit. Buildings are long and low, like this one near Lincoln Memorial.

town building has been added in the past 10 years: the 369,000-sq.-ft. First National Bank. A 400,000-sq.-ft. building is being put up for Cargill, Inc.

Baltimore—Commercial Credit Co. put up the only major downtown building, but the proposed Charles Center redevelopment promises others.

Boston—Demand is strong, but city tax rates and assessments have discouraged investors. Travelers Insurance got a tax concession last year before completing the downtown district's only skyscraper in 25 years (the taller John Hancock building, also built in the last 10 years, is in Back Bay). Last week, a similar deal (BW—Sep. 10 '60, p. 40) cleared the way for Prudential's Back Bay center, to include a 52-story tower.

Buffalo—Tishman built the city's only major postwar building but had trouble filling it with tenants.

Milwaukee—With a long-debated agreement to freeze assessments for seven years, the city seems to have won its first postwar skyscraper, a 22-story building to be built by John Galbreath, with the Marine National Exchange Bank as chief tenant.

St. Louis—No major building has been put up since Depression days, but the city hopes to get at least one in a huge project proposed to be centered around a sports stadium.

III. What's to Come

Cities such as these may yet catch the fever of the New York-Dallas-Chicago group. That would help keep the boom alive, nationally. But the spree of building has already gone on, in most cities, longer and stronger than ever before. That in itself raises questions as to how long it can continue.

The long-term trend toward more office workers and more office space virtually guarantees building in the next 10 years at the rates of the past 10 years, some builders say, unless we have a major recession. But next year or the year after, soft spots might temporarily affect the national rate.

• **Overbuilding**—Some cities are over-

built, discouraging further building, while others haven't yet developed enough demand for space to start building. On the other hand, even with 50-million sq. ft. of space soon to have been added since 1945, New York City sees no end to the immediate demand.

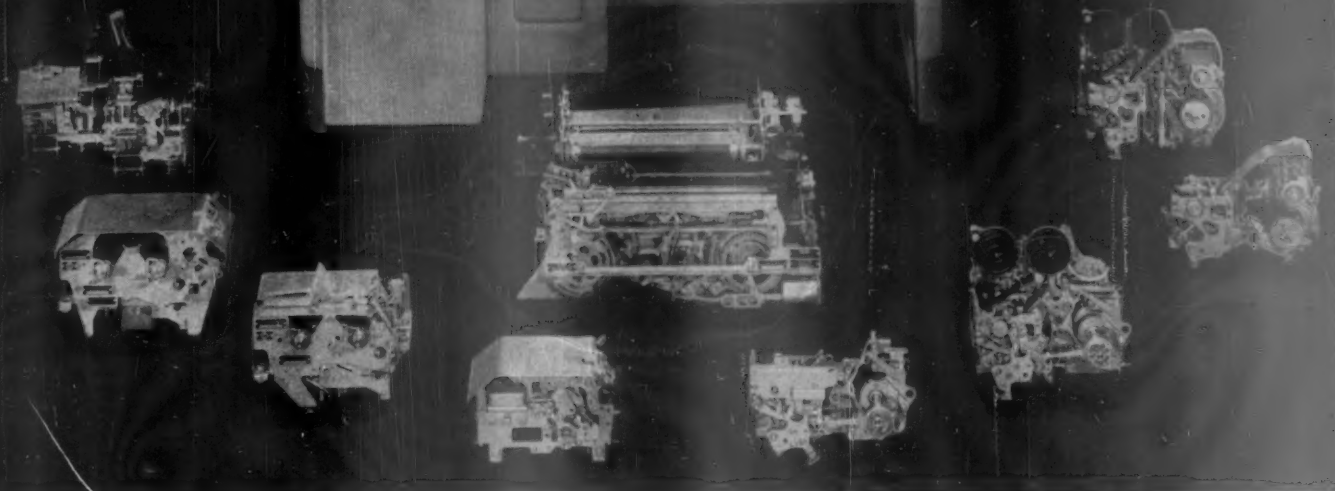
That's why Norman Tishman says he may build another skyscraper in Manhattan but plans none in other cities. His projects elsewhere have been slow to rent, and he feels the market is too limited in cities where he hasn't yet built. In Los Angeles, he owns more office sites, but he doesn't plan to build on them until his sixth and latest building has been fully rented.

The national vacancy rate suggests that the market has had no trouble digesting the latest additions to office space: Last year the National Assn. of Building Owners & Managers reported 5.3% of competitive space vacant, and this year the same. If anyone has been troubled, it has been owners of older buildings—the vacancy rate in postwar buildings is only 4.8%.

However, the national average conceals city-by-city variations that seem to have little to do with the amount of building activity.

Vacancies are below the national average in New York, Houston, Washington, Chicago, and Atlanta—cities that have been doing most of the building—as well as in San Diego, Baltimore, and New Orleans. Yet the rate exceeds 10% in St. Louis, which has done no building, and in Philadelphia, which has done a little, as well as in Pittsburgh, which has done a great deal. Fast-building Dallas is running 9.9% vacancies.

• **Offices Wanted**—Local boosterism is taking a new turn these days. Cities are competing among themselves for company offices the way they long have fought for manufacturing plants. It's not just for the payrolls that they like. Factories and warehouses have been moving increasingly to the suburbs and the rural areas, and cities can't retain their vitality without making commensurate gains in downtown offices. **END**



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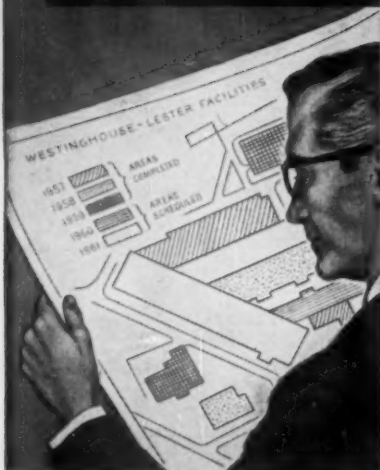
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NEW PRODUCTS



Using Rays to Measure Flow

Officials of Cincinnati's Ohmart Corp. are pictured above fondly poking at what they say is the first commercial nuclear gauge system for measuring the amount of granular material flowing through a pipe or chute.

The Ohmart gauge system was specially designed for Universal Atlas Cement Co. to measure the amount of fine cement powder falling down a gravity feed pipe into a kiln for final burning, at the company's Fairborn (Ohio) plant. But Ohmart is so pleased with results it intends to turn out similar systems, in effect tailoring a standard production item to each case.

Hitherto, nuclear gauges have been used effectively to measure the density of liquids and slurries, and in a more limited way granular materials. As such, they have been incorporated into control systems in plants processing such products as foods and chemicals.

- **Radiation**—A nuclear gauge consists

of a radiation source—usually something such as cesium-137 or cobalt-160 that produces gamma rays—on one side of the pipe or chute, with a conversion cell to act as detector on the other side. The cell converts the radiation that reaches it into electric current, which actuates a recording device. Since the amount of radiation passing through the flowing material varies with the density of the material, the recorder is able to present an accurate picture of the changing densities.

From the known behavior of flowing liquids, it is possible to use the density measurement to calculate the total quantity of moving liquids and slurries. But these methods could not be used on granular solids, because the nuclear gauge is not sensitive enough to cope with the added factor of air between the grains.

Such was the situation when Universal Atlas decided it wanted a system that

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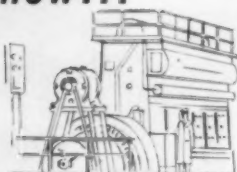
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would measure the amount of granular flow to its kiln. After some vain shopping around, Universal Atlas found that Ohmart had gotten some ideas from the experiments of Hawaiian planters in measuring unrefined sugar. The present system was then evolved.

• **Chamber Added**—Essentially, what Ohmart has added to previous systems is a measuring chamber, inserted in the line of free flow down the gravity pipe. This chamber compacts the grains to a point where they are within the range of sensitivity of the nuclear gauge. The chamber is so designed that the granular material moves at constant speed. This multiplied by the density, provides the desired information on quantity of material moved per second. The Ohmart measuring chamber can cope with commercial-scale quantities.

Ohmart figures that when it gets into production, its basic instrument tailored to the individual need will cost approximately \$4,500; recording equipment will boost the total to between \$6,000 and \$7,000.

NEW PRODUCTS BRIEFS

A polyethylene plastic typewriter ribbon has been introduced by International Business Machines Corp. Because of polyethylene's resilience, the new ribbon is said to produce a more accurate print of the type character than fabric ribbons or previous plastic ones made from mylars and acetates, since it bends more to the contours of the letter or number. IBM says the new ribbon will make possible fancier type faces than before. Price is \$12.50 per dozen.

General Electric Co. is bringing out a little plug-in night light for its first electroluminescent consumer product. GE's night light also has three electrical outlets on its sides. It costs \$1.39. Sylvania, Westinghouse, and RCA also have turned out plug-in lights from their electroluminescent paneling.

A new midjet transistor radio is the size of a matchbook and tips the scales at less than an ounce. To listen to it, you wear it on your ear like a hearing aid. It's said to have a range of 15 miles, using a pair of 1-in. batteries with an average playing life of 100 hours. Made by Micro-Ceiver, Inc., Englewood, N. J., the tiny radio is priced at \$19.95.

The newest Polaroid Land Camera has an electric eye that controls both shutter speeds and lens openings. Thus, it automatically sets itself for pictures in any kind of light. Polaroid Corp. suggests a list price of \$159.95.

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How to Receive the Unwelcome Guest

Nikita Khrushchev's arrival in New York, scheduled for next Monday (page 25), once again demonstrates the versatility of the Communists in using every means available in their campaign to harass, weaken, and eventually conquer the West. Khrushchev is coming here uninvited—a bit of calculated impertinence intended to insult this nation and show his contempt. His visit is but one part of a "total offense" that includes political maneuver, economic bargaining, military action, and subversion.

Comrade Khrushchev himself has succinctly expressed the Communist objective—"we will bury you." He has avoided saying whether he means to bury us in the rubble of bombed cities or in the debris of undermined political and economic institutions. There is good reason to suspect the latter, but there's little doubt that if he believed he could crush America with military force, without great cost to Russia, he would try it.

How, then, should we greet this uninvited visitor who openly threatens our freedom as his ship sails into New York past the Statue of Liberty?

The answer is evident. We must treat him with perfect coolness and with perfect propriety. He comes as a delegate to the U.N. So let him come, attend to his business, and go. A welcoming ceremony, turnout of crowds, special social affairs clearly are out of order. Nor should Americans demean themselves by demonstrations against him.

Presumably, the U. S. government has given full thought to the problems presented by the visit and is prepared to take whatever steps it can to minimize Khrushchev's propaganda efforts. The State Dept. did well in reminding the Russians that, coming as a delegate and not as a guest, Khrushchev is not entitled to go where he pleases in this country. Past policy has been to confine Russian delegates to an area within 25 miles of New York, which corresponds to the zone within which U. S. embassy personnel are allowed to move around Moscow. In Khrushchev's case, the State Dept. has limited him to Manhattan Island on the grounds that guaranteeing his safety in a larger area would be difficult.

Khrushchev's stay confronts the two Presidential candidates, Vice-Pres. Nixon and Sen. Kennedy, with a particular problem. Either candidate may be tempted to make headlines by choosing this moment to attack his opponent on the issues of foreign policy, defense, and the cold war.

Little would please the Communist leader more. The Russian is obviously trying to capitalize on our appearance of disunity during the Presidential campaign, and both candidates must recognize that fact. This is a time for them to think twice before speaking and to make it plain to all the world that, though we may differ on many things, we are united

in our stand against the things that our unwelcome visitor represents.

Later, when Khrushchev's visit is over, both candidates should make a point of laying before the country their plans for mounting a total counter-offensive to meet and turn back the challenge the Communists are flinging at us.

Strike Insurance

Strike insurance is a new phenomenon in U. S. labor relations, but it has already begun to reveal some disturbing implications.

The newspapers have had a plan in operation at least 10 years that provides payments up to a maximum of \$10,000 a day to a newspaper shut down by a labor dispute. The air transport industry set up its own strike insurance plan about two years ago and the nation's railroads joined together to set up a fund a year ago.

Last week, the Brotherhood of Railroad Trainmen sued the railroads for \$10-million in damages on the grounds that they had conspired to finance this summer's 26-day strike of the Long Island RR. During its strike, the Long Island had received about \$50,000 a day in strike benefits.

It is hard to question the justification for strike insurance. It is one way in which employers can counter the massed force of national unions with hundreds of thousands of members and tens of millions of dollars. It helps an individual employer, who may be small compared to the giant unions, to save himself from being steamrollered. The unions, too, pool their resources to help each other in strikes. So it is inevitable that employers will try to muster their financial resources.

The trouble is that this is all part of a larger problem—one that was best illustrated by the three-month-plus strike of the steel industry last fall. Both sides in a strike today can call on enormous resources. Where 30 years ago a 30-day strike was enough to break one side or the other, and so bring a harsh but decisive end to the dispute; today the parties can hold out for months.

Strike insurance, if widely adopted, would help management to hold out even longer. And it would inevitably lead the unions to countervailing devices that would let them match, or more than match, management's ability to resist.

Those who get hurt, of course, are the members of that long-suffering group known as the innocent bystanders. The result will be to increase the pressure to find other methods of settling industrial disputes—and ones that may not be agreeable to either companies or unions. The group that really needs strike insurance is the public.



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